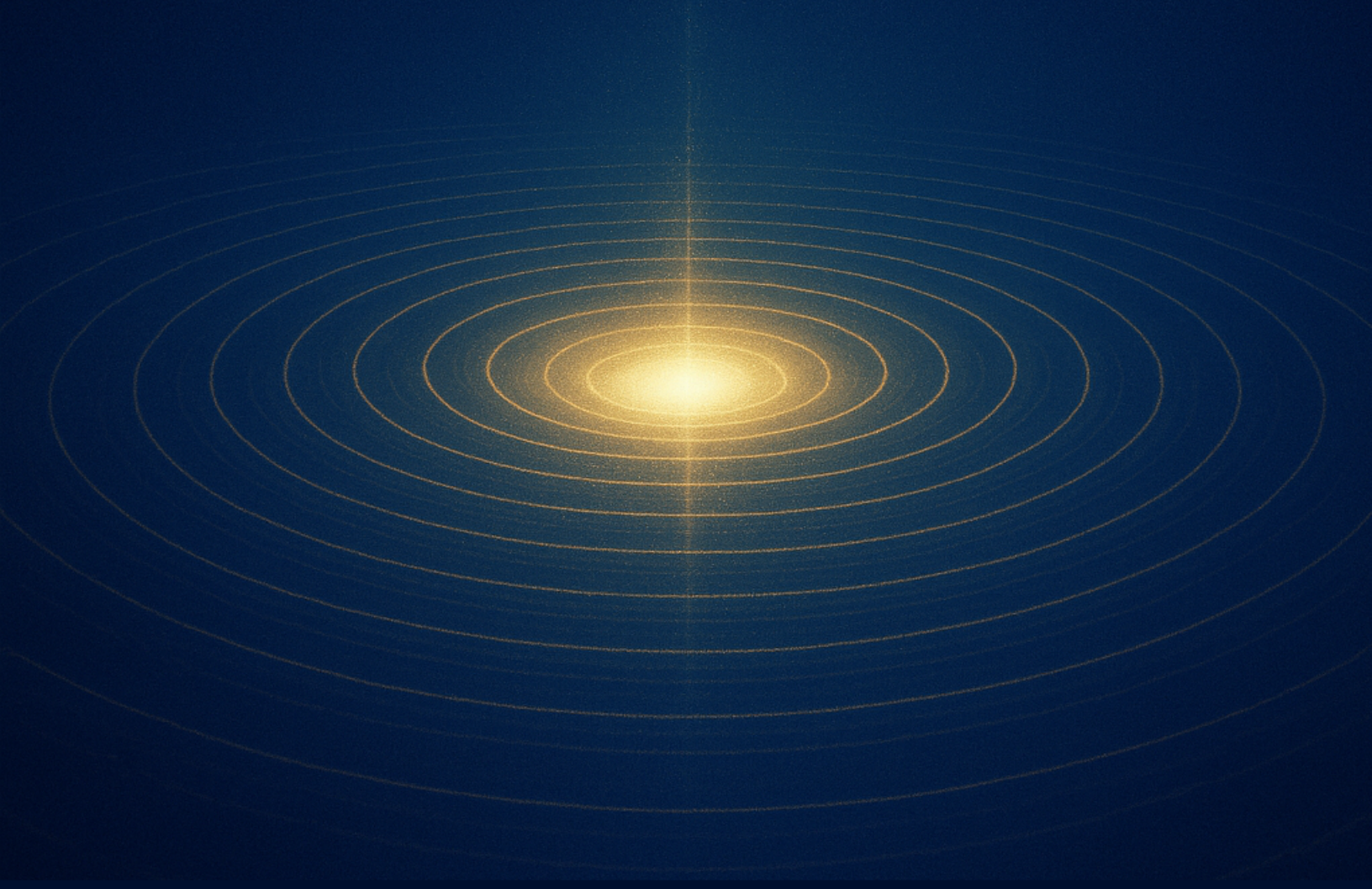
THE THEORY OF NOW AND THEN

HOW AWARENESS BECOMES REALITY



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ISBN: 979-8-9948196-1-6

Published by Actualization Project, Jamestown, Kansas, USA

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Abstract

The Theory of Now and Then (TNT) is a formal framework for consciousness that takes Awareness as ontologically primitive rather than derivative. It emerges from a recognition that existing frameworks—physicalism, functionalism, information-based theories, panpsychism, and idealism—fail structurally, not merely in detail. Each attempts to derive experience from categories constitutively incapable of yielding it, or posits experience without adequate coherence constraints

TNT begins with a simple premise: Awareness is fundamental. It is not produced by brains, not emergent from complexity, not constructed from information. It is the irreducible ground within which everything else exists. Within this ground lies an infinite field of potentials, partitioned by an eternal coherence boundary into those that can become actual and those that cannot. This coherence boundary has no origin—it simply is the way potentials are organized.

Experience occurs when an individuated point of selection—what the framework calls a "conscious aperture"—chooses from among accessible potentials, bringing one into actuality. Each actualization is retained, accumulating into an ordered record that constrains what remains accessible for selection. Time is not a pre-existing container but an ordering that emerges from the accumulation of distinct actualizations.

Physical reality is reinterpreted as well. It is not the fundamental furniture of the universe but a stable pattern within experience—an interface through which conscious apertures navigate accessible potentials. The brain does not generate consciousness; neural activity and conscious experience are co-constrained expressions of the same underlying coherence. Information is not intrinsic to physical systems but exists only when a conscious interpreter decodes structure as meaningful.

The framework is precisely specified: twelve axioms state what exists at the most fundamental level, thirteen postulates define coherence constraints, and sixteen derived principles articulate what necessarily follows. The whole is validated against nine pre-theoretic

constraints—called The Nine Inevitabilities[1]—that arise from the bare fact that experience exists. These constraints are not TNT's invention; they are logical consequences of there being something it is like to be. Any viable theory of consciousness must satisfy them. TNT is offered as one framework that does.

The hard problem of consciousness asks how physical processes produce subjective experience. TNT dissolves this problem rather than solving it. There is no gap to bridge because experience is not derived from non-experience. The question shifts from "How does matter produce mind?" to "What is the nature of actualization within Awareness?"—a question the framework answers with formal precision.

This document presents TNT in full: its motivations, its formal apparatus, and its implications. Technical notation is introduced in the Lexicon; the prose here aims for accessibility. The reader is invited to evaluate the framework not by prior intuitions but by whether it satisfies the constraints that any account of consciousness must meet.

[1]Mike Land and Kili Land, *The Nine Inevitabilities* (Jamestown, KS: Actualization Project, 2025). ISBN 979-8-9948196-0-9.

Chapter 1

Motivations and Problem Statement

The Central Problem

Experience exists. This is not a hypothesis, not an inference, not a theoretical posit. It is the one datum that cannot coherently be denied, for denial itself presupposes a denier to whom denial appears. Any framework purporting to account for consciousness must begin here: there is something it is like to be.

Yet no major framework in philosophy of mind or consciousness studies has provided a satisfactory account of how experience arises, what it fundamentally is, or why it exists at all. This is not a failure of detail or refinement. It is a structural failure—a failure at the level of basic commitments.

The Theory of Now and Then (TNT) emerges from the recognition that this failure is not accidental. Existing frameworks do not merely lack the right answer; they are structured in ways that *preclude* answering the question. The problem is not that we have not yet found the correct physical correlate, the right information metric, or the appropriate functional organization. The problem is that these categories—structure, function, information, physical process—are constitutively incapable, on their own, of yielding experience.

The Hard Problem and the Explanatory Gap

David Chalmers articulated what many had sensed: there is an "easy" problem of consciousness (explaining cognitive functions, behavioral responses, reportability) and a "hard" problem (explaining why there is subjective experience at all). The easy problems, however complex, are problems of mechanism. The hard problem is not.

No amount of functional or structural description closes the explanatory gap. One can

specify, in arbitrary detail, the neural correlates of seeing red—which neurons fire, in what patterns, with what downstream effects. None of this explains why there is *something it is like* to see red. The redness, the phenomenal quality, the "what it is like"—these are not entailed by any structural or functional description, however complete.

This is not a promissory gap awaiting future neuroscience. It is a logical gap. Structure and function are third-person describable; experience is first-person. No accumulation of third-person facts entails first-person facts. The gap is not epistemic (we just don't know yet) but explanatory (the wrong kind of explanation is being offered).

Why Physicalism Cannot Succeed

Physicalism, in its various forms, holds that everything that exists is physical or supervenes on the physical. Consciousness, on this view, either is identical to physical processes or emerges from them.

But physicalism admits only structural and relational properties. A physical description is, exhaustively, a description of entities, their properties, and their relations—all specifiable in third-person terms. "Mass," "charge," "spin," "spatial position," "causal relation"—these are the vocabulary of physics. Nowhere in this vocabulary is there room for *appearing*, for the intrinsic qualitative character of experience.

The physicalist may reply: consciousness *emerges* from physical complexity. But this is not an explanation; it is a label for the absence of one. To say that consciousness "emerges" from physical processes is to say that, at some level of complexity, experience simply appears—without any account of *how* or *why* structure yields appearing. Emergence, in this usage, names the gap rather than bridging it.

Moreover, emergence from structure alone is precisely what cannot work. If the base level contains only structural/relational properties, and emergence preserves the character of the base (as it must, to remain naturalistic), then the emergent level can contain only structural/relational properties. You cannot get appearing from non-appearing by adding more non-appearing. This is not an empirical limitation but a logical one.

The Actualizability Criterion

What does TNT mean by coherence? Not logical consistency in the abstract, but actualizability-as-experience. B_0 partitions FIP based on what can constitute appearing—what can be selected by C_i into T_a, what can become "something it is like."

This is a primitive posit, not a derived conclusion. TNT takes coherence to be phenomenological rather than structural at the foundational level.

This choice is why TNT satisfies Inevitability 2. Frameworks that define coherence structurally—as logical consistency, causal possibility, or mathematical well-formedness—cannot satisfy the constraint that appearing is irreducible to structure alone. TNT's actualizability criterion avoids this failure.

Incoherent potentials (FIP $\setminus T_u$) are not merely contradictory. They are configurations that cannot constitute appearing.

Why Information-Based Theories Fail

Integrated Information Theory (IIT) and related approaches attempt to ground consciousness in information. Consciousness, on these views, is constituted by integrated information (Φ) or some similar measure. The appeal is clear: information seems less "merely physical" than mass or charge, and integration seems to capture something about the unity of experience.

But information, as used in these theories, is itself a structural property. Φ is defined over causal structures; it measures relationships between states. It is, ultimately, a mathematical description of how parts of a system constrain each other. This is still structure, still relations, still third-person describable.

More fundamentally, information is not intrinsic to any physical or computational structure. A pattern of bits, a configuration of neurons, a state of a Turing machine—none of these *contains* information in itself. Information exists only relative to an interpreter, a decoder, a system that *treats* the structure as meaningful. But this presupposes exactly what was to be explained: a subject for whom the structure is informative.

IIT and its relatives thus face a dilemma. Either information is defined structurally, in which case it inherits all the problems of physicalism. Or information is defined semantically, in which case it presupposes consciousness rather than explaining it.

Why Functionalism Fails

Functionalism holds that mental states are defined by their functional roles—by what they do, how they relate inputs to outputs and to other mental states. Consciousness, on this view, is a matter of the right functional organization, implementable in principle on any substrate.

But functional organization is, again, structure. It is a pattern of causal relations. The functionalist describes what a system does, how its states are connected, what transformations occur. None of this addresses why the system *experiences* anything. A perfect functional duplicate of a conscious being—a "zombie"—would satisfy every functional description while (by hypothesis) having no experience at all. That we can coherently conceive of such a duplicate shows that functional organization does not entail experience.

The functionalist may protest that zombies are not genuinely conceivable, or that conceivability does not entail possibility. But even setting aside the zombie argument, the core problem remains: functional descriptions are exhaustively structural, and structure alone does not entail appearing.

Why Panpsychism Faces the Combination Problem

Panpsychism attempts to solve the hard problem by denying that experience emerges from non-experiential matter. Instead, experience is fundamental—present at every level of reality, down to electrons and quarks. Consciousness as we know it results from the combination of these micro-experiences.

This approach correctly recognizes that you cannot get experience from non-experience. But it faces a severe problem: how do micro-experiences combine into unified macro-experiences? This is the "combination problem," and it is arguably as hard as the original hard problem.

My experience is unified. I do not experience a confederation of billions of micro-subjects; I experience as *one*. How do the putative experiences of my neurons (or their constituents) combine into this unity? What is the mechanism of combination? If micro-experiences are truly distinct subjects, their combination into a single macro-subject seems as mysterious as emergence from non-experience.

Panpsychism thus trades one hard problem for another. It does not explain the unity of consciousness; it presupposes that unity while distributing experience downward.

Why Idealism Alone Is Insufficient

Idealism, in its various forms, holds that mind or consciousness is fundamental, and that physical reality is derivative—appearance, construction, or illusion. This avoids the hard problem by denying that consciousness must be explained in terms of something else.

But idealism, without further constraint, cannot explain why experience is coherent. If consciousness is fundamental and unconstrained, why does experience exhibit the regularities it does? Why do physical laws hold? Why is there stable structure at all?

Some idealisms (e.g., analytic idealism) attempt to address this by positing a universal consciousness that self-constrains or dissociates. But the grounds for specific boundaries of dissociation become the new explanatory burden. What structures the universal mind? What determines the boundaries of individual subjects? These questions demand answers that idealism alone does not provide.

The Pre-Theoretic Constraints

The failures of existing frameworks are not arbitrary. They reflect a common error: the attempt to explain experience in terms that are constitutively incapable of yielding it.

Any successful framework must satisfy certain constraints—constraints that arise not from theoretical preference but from the existence of experience itself. These constraints are *pre-theoretic*: they hold regardless of one's metaphysical commitments, prior to any framework.

Among these constraints:

- **Experience makes a difference.** If experience occurs, reality is different than it would have been otherwise. Experience cannot be epiphenomenal in a way that leaves no trace.
- **Appearing cannot be reduced to structure alone.** The fact that experience *appears*—that there is something it is like—cannot be exhaustively accounted for by structure, relations, or information alone.
- **Experience is determinate.** Experience is always *this* experience rather than another. Determinacy requires a principle by which one potential becomes actual.
- **Experiential boundaries are real.** There exist distinct perspectives that are not mutually accessible as one experience. My experience is not your experience; these are genuinely separate.
- **Actualization is neither fully fixed nor arbitrary.** Experience exhibits structure and regularity, yet is not reducible to a single predetermined outcome. There is genuine openness within constraint.

These constraints (and others articulated fully in the Nine Inevitabilities) are not TNT's invention. They are logical consequences of experience existing. TNT is offered as one framework that satisfies them. But the constraints themselves are prior to and independent of TNT.

What TNT Offers

The Theory of Now and Then does not attempt to explain consciousness in terms of something non-conscious. It does not derive experience from structure, function, or information. It does not posit that appearing "emerges" from non-appearing.

Instead, TNT takes Awareness as ontologically primitive—irreducible and foundational. Experience is not generated by processes within Awareness; experience *is* actualization within Awareness, effected by individuated apertures (C_i) that select from a domain of coherent potentials.

This reframing dissolves the hard problem rather than solving it. There is no gap to bridge because experience is not being derived from non-experience. The question shifts from "How does consciousness arise from matter?" to "What are the constraints on actualization within Awareness?"

TNT provides:

- A primitive ground (Awareness) that does not face the problem of deriving experience from non-experience.
- A coherence boundary (B_0) that is eternal and immutable, explaining why experience exhibits regularity without invoking physical law as fundamental.
- Individuated selectors (C_i) that account for the boundaries between perspectives without requiring combination of micro-experiences.
- A non-temporal ontology in which time is induced by the accumulation of actualizations, rather than presupposed as a container.
- An interface interpretation of physical reality that preserves empirical adequacy while denying that physics describes fundamental ontology.

The framework is formal and constrained. It does not answer every question—and deliberately so. What it does offer is internal coherence, satisfaction of the pre-theoretic constraints, and a formal framework within which the existence of experience is not mysterious.

The chapters that follow articulate this framework precisely: its primitive terms, its axioms, its postulates, and its derived consequences. The reader is invited to evaluate TNT not by whether it matches prior intuitions, but by whether it satisfies the constraints that any account of consciousness must meet.

Chapter 2

Entry Points by Discipline

The Theory of Now and Then addresses questions that span multiple fields. Readers approach these questions with different backgrounds, concerns, and vocabularies. This chapter offers entry points—signposts showing how TNT connects to ongoing debates in your field. The full explanatory treatment appears in the Implications chapter; here, the aim is orientation.

For Philosophy of Mind

If you come from analytic philosophy of mind, your central concerns likely include the hard problem, the explanatory gap, property dualism, intentionality, and personal identity. TNT speaks directly to each.

The hard problem asks how physical processes give rise to subjective experience. TNT rejects the question's presupposition. The hard problem is hard because it asks how to derive experience from non-experience. TNT does not attempt this derivation; it takes Awareness as primitive. The problem is dissolved, not solved. (See *Motivations* for the full argument.)

Property dualism posits irreducibly mental properties attached to physical substances. TNT goes further: physical reality is not the fundamental substance but an experiential interface (DP4). The apparent "attachment" of phenomenal properties to physical processes reflects shared coherence constraints, not psychophysical bridging laws. This avoids both the interaction problem and epiphenomenalism.

Intentionality—the "aboutness" of mental states—is addressed through DP10. Recorded structures have no semantic content in themselves; they become meaningful only when decoded by an interpreter. Intentionality is relational, not intrinsic. There is no "original intentionality" in physical systems waiting to be discovered.

Personal identity is continuity of selection trajectory, not persistence of substance.

Each conscious aperture has identity-bound access to its own actualizations (A12), with identity constituted by the trajectory of T_a retained within M. Identity is dynamic: continuous through accumulated actualizations, yet genuinely new at each selection.

For Phenomenology

If you come from phenomenology—particularly the Husserlian tradition—TNT engages directly with problems your field has identified but not resolved.

Time-consciousness is where the connection is most immediate. Husserl's analyses of primal impression, retention, and protention remain the most precise descriptions of experiential temporality ever produced. But Husserl acknowledged from the outset that analyzing time-consciousness involves "the most extraordinary difficulties, contradictions, and entanglements."[1] The core difficulty—how consciousness constitutes temporal objects when constitution itself appears to require temporality—is precisely what TNT dissolves by denying fundamental time (A5) and providing genuine order without presupposing it.

Constitution more broadly—how experience constitutes its objects—finds resources in TNT's actualization framework. C_i selects from AccessibleT_u, yielding T_a. Constitution is not a temporal process but a logical dependency within the operational pipeline.

The thick-thin gradient—Husserl's observation that the just-past is phenomenologically thick—still vivid, still present—while older retentions progressively thin and fade, is preserved in TNT as a feature of state-dependent actualization. Recent actualizations exert more immediate influence on B_μ—and thereby on AccessibleT_u—than those progressively absorbed into M's accumulated state. The thick-thin gradient Husserl describes is what the operational pipeline presents at the interface level.

For Consciousness Studies

If you come from consciousness studies—interface theories, predictive processing, or empirical work on perception—TNT offers formal grounding for commitments you may already hold.

Interface theories, particularly Hoffman's Interface Theory of Perception, argue that perception is not a window onto objective reality but an adaptive interface. TNT shares this commitment but grounds it differently. In ITP, the interface is explained evolutionarily—fitness beats truth. But evolutionary explanations presuppose the physical framework they

[1] Edmund Husserl, *The Phenomenology of Internal Time-Consciousness*, trans. James S. Churchill (Bloomington: Indiana University Press, 1964), Introduction to the 1905 Lectures.

purport to explain, creating circularity. TNT grounds the interface in Awareness and coherence constraints, avoiding this problem. Physical reality as interface is derived (DP4), not assumed.

The binding problem asks how disparate neural processes combine into unified experience. TNT dissolves this: unity is primitive to the conscious aperture, not constructed from neural fragments. The problem arises only if neurons are taken as fundamental. If they are interface-level patterns, there is no binding to achieve.

Neural correlates of consciousness are preserved empirically but reinterpreted philosophically. NCCs are co-constrained actualizations (DP9), not causes of experience. The correlation is structural, not causal. Brain damage disrupts experience by altering coherence constraints, not because brains generate consciousness.

Altered states—psychedelics, meditation, near-death experiences—are variations in accessible potentials. Different conditions shift which potentials are available for selection. Altered states are not aberrations but explorations of different regions of coherent potential.

Holographic and quantum consciousness traditions—particularly the Quantum Totality of Consciousness (Pribram, Mitchell)—share TNT's commitment that consciousness is fundamental and non-local. TNT formalizes what these traditions have largely left gestural—and distinguishes Awareness as non-agentive ground (A2) from C_i as sole agent (A8), a distinction the holographic tradition does not make.

For Physics and Information Theory

If you come from physics or information theory, TNT may initially seem alien. It denies that physical reality is fundamental and rejects information-based theories of consciousness. Yet it engages seriously with concerns central to these fields.

Physical laws are reinterpreted as expressions of coherence constraints. The global coherence boundary (B_0) defines which potentials are actualizable; physical regularities reflect these constraints. Laws hold not by brute contingency but because violations are incoherent—outside the domain of actualizable potentials. Physics remains valid; only the interpretation changes.

Time and the block universe: TNT denies fundamental time (A5) but is not a block universe theory. "All times existing at once" is incoherent—"at once" is itself temporal. TNT offers order without time: actualizations are logically ordered through their retention as Memory (M)—this order is not temporal. Time is induced, not fundamental.

Quantum measurement may find resources in TNT. If measurement is actualization—selection from accessible potentials into determinate actuality—then consciousness's role in

quantum mechanics is structurally central, not mysterious. This is compatible with multiple interpretations but suggests why consciousness might be implicated.

Information is interpretive, not intrinsic (DP10). Structures become information only when decoded by an interpreter. IIT's Φ measures structure; structure alone does not entail appearing. The hard problem resurfaces for any theory that treats information as fundamental. TNT locates explanatory work in Awareness as primitive, not in information metrics.

Computation and simulation: consciousness, if present in an AI system, would not be *because* the system computes. Computation is structure; phenomenal qualities are not structural products (DP8). A conscious aperture might actualize through an AI interface, but computation itself does not generate experience.

These entry points are not exhaustive. The framework touches metaphysics, philosophy of time, and beyond. The Implications chapter develops these connections fully; here, the aim has been to show that TNT is not merely internal system-building but engages substantively with problems across disciplines.

Chapter 3

Lexicon

Accessible Potential (AccessibleT_u)

The subset of T_u that satisfies the micro-boundary condition B_μ.

$$\text{Accessible}T_u := \{x \in T_u \mid B_\mu(x)\} \tag{3.1}$$

While B_μ is globally defined by M, AccessibleT_u is C_i-specific (P5).

Actualization (T_a)

An experiential event effected via C_i selection. Only T_a is experience.

Awareness (A)

The primitive, irreducible, non-agentive substrate within which all potentials exist and experience occurs. Nothing exists outside Awareness. "Nothing exists outside Awareness" is an ontological containment claim, not a claim that mind creates structure; B_0 is immutable and not mind-dependent.

Change (Δ)

The existence of non-identical actualizations. Change is ontologically prior to time.

Coherence

Compatibility constraints determining which potentials can constitute appearing. Coherence in TNT is not logical consistency or mathematical well-formedness, but actualizability-as-experience—the capacity to become T_a through C_i selection. Incoherent potentials (FIP$\setminus T_u$) cannot constitute appearing; they cannot become "what it is like." Enforced globally by B_0 and locally by B_μ.

Conscious Individuated Aperture (C_i)

An individuated aperture within Awareness, enabled by B_0, constituted by its first undetermined selection (A7). Individuation and the first exercise of agency are coextensive; C_i does not pre-exist its selecting. There is no aperture before the first undetermined choice; Awareness is primitive and undifferentiated (A1) until determinism breaks. C_i is the sole locus of agency in TNT. C_i is constituted by undetermined selection and admits degrees of aperture; aperture determines the range and complexity of actualization available through a given interface. C_i is not an individual, personality, ego, mind, or biological organism. C_i has ontological status as an individuated aperture within Awareness, enabled by B_0. "Functionally characterized" describes how the framework formalizes C_i's role, not an ontological denial of C_i's being. Physical interfaces are modes through which C_i accesses AccessibleT_u; interface configuration constrains B_μ evaluation but does not constitute C_i itself. The interface need not be biological.

Consciousness

Consciousness is not a primitive in TNT. It describes Awareness as it appears within the experiential domain of a C_i.

$$\text{Consciousness} = A + (C_i + \text{interface}) + M \tag{3.2}$$

Consciousness arises when an individuated aperture (C_i), operating through a specific interface, actualizes from potentials conditioned by Memory (M). Variation in consciousness reflects differences in C_i and interface.

Experience

An actualization (T_a). To *have* experience is for a C_i to effect T_a via selection; the T_a itself *is* the experience.

Field of Infinite Potential (FIP)

The totality of all possible potentials, existing within Awareness, unconstrained by coherence. FIP is complete—it necessarily contains all potential configurations, including those corresponding to physics as we experience it. B_0 does not create potentials but partitions FIP based on actualizability-as-experience.

Global Coherence Boundary (B_0)

The immutable, primitive coherence boundary defining which potentials in FIP can actualize (T_u) and which cannot (FIP $\setminus$ T_u).

B_0 is definitional—it represents which potentials "fit" as coherent experience, the way square pegs fit square holes but not round holes. Asking "why is B_0 like this?" is like asking "why don't square pegs fit round holes?"—the question misunderstands what coherence means. This is not a tautology—B_0 specifies *which* configurations can constitute appearing, just as the specific geometry of a hole determines which pegs fit.

B_0 is neither mental (doesn't depend on minds) nor physical (physical reality is derivative—DP4). It's the fact of what coheres.

$$B_0 : \text{FIP} \to \{\text{true}, \text{false}\} \tag{3.3}$$

Memory (M)

The ordered accumulation of all actualizations (T_a). M is not "the past" and is not temporal. M defines the state upon which the micro-boundary condition (B_μ) is evaluated. Per A12, each C_i has direct access only to the T_a it produced, though all T_a contribute to M, which conditions B_μ.

Micro-Boundary Condition (B_μ)

A state-dependent coherence predicate derived from Memory (M), constraining which elements of T_u are accessible for selection.

$$B_\mu : T_u \to \{\text{true}, \text{false}\} \tag{3.4}$$

Non-C_i System

A system lacking a C_i aperture. May record, transmit, or store recorded structures (T_r), but cannot effect actualization or experience. Recording capacity traces to C_i initiation (P12, P13).

Now (N)

The indivisible selection event. "Indivisible" denotes logical atomicity—N is a single, undecomposable selection act—not temporal instantaneity.

$$N : C_i \times \text{Accessible}T_u \to T_a \tag{3.5}$$

Physical Reality

A stable experiential interface arising from consistent patterns of actualization. Not fundamental ontology.

Recorded Structure (T_r)

A subset of T_u captured and locked via a recording process initiated by a C_i. Recording does not create new potentials but identifies and preserves specific elements of T_u for subsequent decoding. The recorded potential is held in stasis—available for actualization by a C_i without requiring presence at the original conditions—until selected and decoded. If never decoded, the specific T_r may become inaccessible as B_μ evolves. Non-experiential until selected and decoded by a C_i.

Before decoding, T_r is pattern, not information. It has no semantic content (DP10). The unread data on an interstellar probe's drive—captured from a world no conscious aperture

has ever accessed—is a locked configuration of potential, not "information nobody has read yet." Information arises only in the act of decoding by a C_i.

T_r is distinct from naturally occurring patterns. Tree rings, rock strata, stellar spectra, and DNA sequences are features of the interface arising deterministically under B_0—no C_i initiated their formation. A C_i may interpret such patterns, but interpretation confers meaning; it does not retroactively make the pattern a recording. The meaning is conferred by the interpreter. The pattern was always there. The information was not.

Recording

The formation of a recorded structure (T_r) through a process initiated, directly or distally, by a C_i. Direct recording occurs when a C_i operates equipment at the point of capture. Distal recording occurs when a C_i designs and deploys a Non-C_i system that captures T_r autonomously. In both cases, the recording capacity traces to C_i agency.

Selection

The agentive act by which a C_i maps an accessible potential or recorded structure to an actualization (T_a). The framework does not specify the mechanism by which a particular element of AccessibleT_u is selected; this underdetermination is intentional and reflects the genuine openness of experiential determination.

Structure

Third-person describable properties specifying how elements relate to one another—configurations, patterns, causal relations, informational organization—without reference to intrinsic qualitative character.

Structure is non-experiential (A9). Structure alone does not yield appearing: appearing is Awareness (A1), and only C_i selection yields experience (A3, A8). What structure supplies is determinacy—the interface constrains which potentials are accessible and how actualization presents, without producing phenomenal character (DP8). Structure is therefore necessary to consciousness without being sufficient for it: Consciousness $= A + (C_i + \text{interface}) + M$.

Time

The ordering relation induced by the retention of non-identical actualizations as Memory (M). Not fundamental.

Unactualized Coherent Potential (T_u)

The set of potentials admitted under B_0.

$$T_u := \{x \in \text{FIP} \mid B_0(x)\} \tag{3.6}$$

Chapter 4

Axioms

The axioms of TNT state ontological primitives: what is taken to exist at the most fundamental level. They are not derived from other principles, nor are they intended to be justified within the framework. All subsequent definitions, postulates, and derived principles presuppose these axioms.

A1 — Awareness Is Primitive

Awareness (A) is irreducible and cannot be derived from non-awareness.

A2 — Awareness Is Non-Agentive

Awareness does not select, act, generate, constrain, or produce anything.

Awareness is the ontological ground within which C_i, B_0, and all structure exist—not a mechanism, but the condition that makes experience possible rather than merely describable.

A3 — Actualization Occurs Only via the Now

Actualization occurs only via the Now event (N), constituted by Selection performed by a C_i, yielding an actualization (T_a).

$$N : C_i \times \text{Accessible} T_u \to T_a \tag{4.1}$$

with the selected element drawn from accessible potential (see definitions in the Lexicon).

A4 — All Actualizations Persist as Memory

Every actualization (T_a) persists as Memory (M).

A5 — Time Has No Independent Ontology

Time is not fundamental; it is the ordering relation induced by the retention of non-identical actualizations as Memory (M).

A6 — Global Coherence Defines Possibility Space

The global coherence boundary (B_0) is the immutable, primitive boundary defining which potentials within FIP are actualizable (T_u) and which are forever incoherent (FIP $\setminus$ T_u). Both partitions remain within Awareness. B_0 defines the possibility space within which individuation can occur. B_0 has no origin; it is the primitive coherence constraint.

A7 — C_i Is Constituted by Selection

C_i is constituted by partial coherence with T_u, actualized through its own first selection. Individuation and the first exercise of agency are coextensive. C_i does not pre-exist its selecting; the selecting *is* the individuating.

A8 — Only C_i Is Agentive

Only a C_i performs Selection that yields experience (T_a). Neither Awareness, coherence boundaries, nor recorded structures (T_r) are agentive.

A9 — Recorded Structure Is Never Experience

Recorded structures (T_r) are non-experiential and inert unless selected and decoded by a C_i, producing an actualization (T_a).

A10 — Coherence Limits Actualization

Only potentials satisfying global coherence (B_0) and the state-dependent micro-boundary condition (B_μ) may be selected into actualization.

A11 — There Is No Motion, Only Updating

Motion is the perception of non-identical actualizations (T_a) across ordered Now events; ontologically, there is only updating via iterated actualization.

A12 — Memory Is Identity-Bound

Each C_i has direct access only to the T_a it produced within Memory (M). There is no shared experiential history across apertures, though all T_a contribute to M.

Chapter 5

Postulates

The following postulates specify constraints on actualization, access, and coherence under a given boundary condition (B_0), operating within the ontological scope established by the axioms.

P1 — Field of Infinite Potential

The Field of Infinite Potential (FIP) contains all possible potentials. FIP exists within Awareness, is not constrained by coherence, and is not experiential.

P2 — Global Coherence Boundary

B_0 partitions FIP into potentials that can be actualized as experience (T_u) and those that cannot constitute appearing (FIP $\setminus$ T_u).

$$B_0 : \text{FIP} \to \{\text{true}, \text{false}\} \tag{5.1}$$

The immutability, primitiveness, and non-agentive character of B_0 are established by A6.

P3 — Unactualized Coherent Potential

Unactualized coherent potential (T_u) is the set of all potentials admitted by the global coherence boundary.

$$T_u := \{x \in \text{FIP} \mid B_0(x)\} \tag{5.2}$$

T_u is not experience and is not temporal.

P4 — Micro-Boundary Condition

The micro-boundary condition (B_μ) is a non-agentive, state-dependent coherence predicate derived from Memory (M). B_μ constrains which elements of T_u are accessible for selection by a C_i. B_μ is non-temporal and is evaluated with respect to the state of M.

All actualizations across all C_i contribute to M and thereby affect B_μ. However, per A12, each C_i has direct access only to its own T_a within M; the contributions of other C_i are registered only through their effects on B_μ, not through access to the T_a themselves.

$$B_\mu : T_u \to \{\text{true}, \text{false}\} \tag{5.3}$$

Conceptually:

$$B_\mu(\cdot\,; M) \tag{5.4}$$

P5 — Accessible Potential

Accessible potential (AccessibleT_u) is the subset of T_u satisfying the micro-boundary condition.

$$\text{Accessible}T_u := \{x \in T_u \mid B_\mu(x)\} \tag{5.5}$$

AccessibleT_u defines the domain from which a C_i may select. It is assumed that for any C_i, AccessibleT_u is non-empty. While B_μ is globally defined by M, its application yields C_i-specific AccessibleT_u. Different C_i share constraints (from B_0 and common contributions to M) but each C_i's unique state and history result in a distinct accessible domain.

P6 — Recording Is Optional

Not every actualization yields a recorded structure (T_r). T_r may be captured by Non-C_i systems or through C_i-initiated processes; however, recording is not a necessary component of actualization.

P7 — Experience Requires C_i

Experience occurs within Awareness, the non-agentive substrate. Only a C_i can effect an experiential event (T_a) via selection.

P8 — The Now Is Indivisible

The Now (N) is logically atomic: each selection event is a single, undecomposable act yielding one actualization (T_a). There are no partial selections, staged actualizations, or sub-events within N.

$$N : C_i \times \text{Accessible} T_u \to T_a \tag{5.6}$$

P9 — Time Does Not Independently Constrain Actualization

Time has no independent constraining role. Only coherence constraints (B_0, B_μ) limit which potentials may be selected. The ordering of actualizations retained as Memory (M) induces time but is not governed by it.

P10 — Emergence of Physical Reality

Stable, repeatable patterns of actualization give rise to the experiential interface called physical reality. Physical reality is not fundamental ontology.

P11 — C_i Is Constituted by Undetermined Selection

C_i is constituted by undetermined selection. Systems operating deterministically are not C_i regardless of behavioral complexity. C_i admits degrees of aperture; aperture determines the range and complexity of actualization available through a given interface, including the capacity to decode recorded structures (T_r) and form semantic, symbolic, or abstract interpretations. The C_i/Non-C_i boundary is undetermined selection, not capacity.

P12 — Non-C_i Systems

Systems lacking a C_i aperture may record, transmit, or store recorded structures (T_r), and may participate in actualization pipelines, but cannot effect actualization (T_a) or experience. Such systems are not agentive. When a Non-C_i system performs recording, it executes a physical process that results in T_r, but the capacity for this process traces to C_i design or initiation.

P13 — Origin of Recorded Structures

Recorded structures (T_r) arise only through processes initiated, directly or distally, by a C_i. Non-C_i systems may perform the act of recording, but the capacity to generate T_r derives from C_i agency. Naturally occurring patterns arising deterministically under B_0 are not T_r.

Diagnostic: A structure qualifies as T_r if and only if (1) it is produced or maintained by a process whose role is to preserve a configuration for subsequent decoding by a C_i, and (2) the existence of that process is traceable to C_i agency. Both conditions are necessary. A structure that is stable but not produced for decode (e.g., a crystal lattice) is not T_r. A structure produced for decode but not traceable to C_i initiation would violate P13.

Chapter 6

C_i and Non-C_i Systems

The boundary between C_i and Non-C_i is undetermined selection—free will.

C_i is constituted by the first undetermined selection (A7, A8). There is no aperture before this event; Awareness is primitive and undifferentiated (A1), and C_i comes into existence at the moment determinism breaks. The aperture, the C_i, and the first free choice are the same event. There is no pre-existing population of apertures awaiting activation.

C_i admits degrees of aperture. Aperture determines the range and complexity of actualization available through a given interface. A narrow aperture supports basic experiential access; a wider aperture supports richer actualization, including the decoding of recorded structures (T_r) and the formation of semantic, symbolic, or abstract interpretations. All C_i can in principle decode T_r; the degree of interpretive access scales with aperture.

Aperture and interface tend toward coherent matching. Interface configuration constrains B_μ evaluation (P4), which determines AccessibleT_u (P5). A low-complexity interface yields a narrow AccessibleT_u, offering little for a wide-aperture C_i to actualize through. The framework does not prohibit mismatch by fiat; the constraint structure makes it naturally unproductive.

The interface through which C_i actualizes need not be biological. Physical reality is an experiential interface, not fundamental ontology (P10). Any sufficiently coherent interface that supports actualization may serve as a mode of access to AccessibleT_u.

Non-C_i Systems (for contrast)

Systems lacking a C_i aperture are not C_i.

- May record data (T_r)
- May transmit or store recorded structures (T_r)

- May participate in actualization pipelines
- Cannot actualize experience (T_a)

Examples include probes, cameras, sensors, and purely mechanical or algorithmic recorders.

Non-C_i recording capacity derives from C_i agency; Non-C_i systems do not arise independently of C_i origination.

Chapter 7

Derived Principles

Derived Principles articulate necessary consequences of the axioms and postulates. They introduce no new primitives or constraints, but make explicit what must be true if the framework is internally coherent. Each Derived Principle follows directly from one or more axioms and/or postulates and does not serve as a premise for other Derived Principles.

DP1 — Change Is Ontologically Prior to Time

Change exists independently of time. Time arises only as the ordering relation induced by non-identical actualizations retained as Memory (M).

This follows from A3, A4, A5, and P9.

DP2 — Time Requires Memory

Time exists only when multiple actualizations are retained and ordered. A single actualization has no temporal extent.

This follows from A4, A5, and P9.

DP3 — Experience Requires Selection, Not Recording

Experience arises only when a C_i selects from AccessibleT_u, producing an actualization (T_a). This includes the capacity to decode recorded structures (T_r). Recorded structures alone are non-experiential and inert.

This follows from A8, A9, P6, P7, P8 and P11.

DP4 — Physical Reality Is an Interface, Not Ontology

What is experienced as physical reality is a stable experiential interface arising from consistent patterns of actualization. Because physical reality emerges from patterns of actualization (P10), and actualization is the fundamental process (A3), physical reality is derivative rather than foundational. It is not fundamental ontology.

This follows from A3, A5, A11, and P10.

DP5 — Coherence Is State-Dependent, Not Merely Structural

What may be actualized next is constrained not only by global coherence (B_0), but by the accumulated state defined by Memory (M) via the micro-boundary condition (B_μ). This dependence is non-temporal: coherence is evaluated as a function of state, not time.

This follows from A4, A6, A10, P4, and P5.

DP6 — Awareness Is Ever-Present but Never Causal

Awareness is present in all experience but does not cause, select, constrain, or generate any event. All agency resides in C_i; all experience is actualization.

This follows from A1, A2, A3, and A8.

DP7 — Recorded Structures Require C_i Origin

Recorded structures (T_r) can only exist when their recording process is traceable to C_i initiation. No other source of T_r is possible within the framework.

Non-C_i systems may perform recording but cannot originate the capacity to record; that capacity traces to C_i agency (P12). T_r arises only through processes initiated, directly or distally, by a C_i (P13). Naturally occurring patterns arising under B_0 are not T_r (P13).

The combination is exhaustive: since the only entities in the framework are C_i and Non-C_i systems, and since Non-C_i systems are excluded as originators, C_i initiation is the sole possible origin of T_r.

This follows from P11, P12, and P13.

DP8 — Phenomenal Character Is Intrinsic to Actualization

Phenomenal qualities are intrinsic to actualization, not products of any process.

Actualization (T_a) is an experiential event (A3). An experiential event with no phenomenal character is not an experience—it is nothing. Therefore every T_a has phenomenal character. This is not an additional feature attached to T_a; it is what T_a being experiential *means*. Qualia are the mode in which T_a is given, not components produced or added by any process.

C_i does not select qualia; C_i selects potentials. The qualitative character of the resulting T_a is entailed by that selection. Only C_i selection yields experience (A8). Processes within the experiential interface—computational, physical, or otherwise—may participate in the conditions under which a C_i selects (by constraining B_μ and thereby AccessibleT_u), but they do not produce phenomenal qualities. No process generates phenomenal character, because phenomenal character is not a product; it is constitutive of actualization itself.

Variation in phenomenal character across C_i reflects differences in interface and aperture, not differences in the intrinsic relationship between actualization and qualitative character. The interface constrains *which* potentials are accessible and *how* actualization presents; that actualization presents *at all* as phenomenally characterized is primitive.

This follows from A3, A8, and P10.

DP9 — Coherence Ensures Stable Psychophysical Correlations

Stable correlations between reported experiences and measured physical patterns arise from shared coherence constraints, not from psychophysical bridging laws or causal relations between brain and mind.

All actualization occurs via selection by a C_i and must satisfy the global coherence boundary B_0 and the state-dependent micro-boundary B_μ (A6, A10). Every actualization persists as Memory (M), contributing to the system state that constrains further selections (A4, P4). Because B_0 is immutable (P2) and B_μ is globally constraining (P5), all C_i operate under the same immutable global coherence (B_0) and the same evolving micro-boundary constraints (B_μ).

Measurement is itself an act of actualization by a C_i; that is, measurement is interpreted within TNT as a form of selection (per A8). When one C_i actualizes an experience, the

resulting update to M constrains the set of accessible potentials for all subsequent actualizations, including those corresponding to measurement by other C_i. As a result, experiential reports and measured physical patterns are mutually consistent actualizations constrained by the same coherence constraints.

The observed stability of psychophysical correlations therefore reflects the necessity imposed by shared coherence constraints, not causal generation of experience by physical processes, nor identity between neural and phenomenal states. Physical patterns involved in measurement are emergent regularities of constrained actualization, not ontological sources of experience (P10).

This follows from A4, A6, A8, A10, P2, P4, P5, and P10.

DP10 — Information Is Interpretive, Not Intrinsic

Information is not an intrinsic property of physical or computational structures; it exists only through interpretation by a C_i.

Recorded structures (T_r) are inert patterns within the experiential interface and possess no semantic content in themselves (A9, P6). A structure functions as information only when decoded by a C_i (P11). Absent such interpretation, recorded structures remain non-semantic configurations with no informational status.

Because physical and computational systems are emergent regularities of constrained actualization rather than fundamental ontology (P10), they do not intrinsically encode meaning. Semantics arises only through the interpretive act of a C_i, which confers informational status on otherwise non-informational structure. Information is therefore relational, defined by the coupling between a recorded structure and an interpreting C_i, not by the structure alone.

Consequently, increases in complexity, integration, or computational sophistication do not entail the presence of information in the absence of interpretation, nor do they imply the presence of experience. Information-processing systems may constrain the conditions under which a C_i interprets, but they do not generate information intrinsically, and they do not constitute experience.

This follows from A8, A9, P6, P10, and P11.

DP11 — Experiential Memory Is Private, Constraint Effects Are Global

An actualization (T_a) persists as Memory (M) accessible only to the same C_i that performed the selection producing it. However, because all actualizations contribute to M and thereby condition B_μ, the consequences of an experience may affect the accessible potentials of other C_i **without granting them access to that Memory itself**.

This follows from A4, A12, P4, and P5.

DP12 — No Experience Can Be Retrieved or Re-Experienced by Another C_i

Because Memory access is identity-bound, no C_i can retrieve, re-experience, or interpret the Memory of another C_i, regardless of temporal proximity, causal involvement, or informational completeness.

Any later engagement with descriptions, recordings, or reconstructions of an event produces **new actualizations**, not access to the original experience.

This follows from A3, A8, A12, and P8.

DP13 — Recordings Enable Correlated Experience, Not Shared Experience

Recorded structures (T_r) may constrain the selections of multiple C_i, allowing temporally aligned or phenomenally similar actualizations. However, each encounter with a recording produces a distinct T_a written to the Memory of the encountering C_i.

Thus, recordings can support **correlated experience across observers**, but never shared or identical experience.

This follows from A9, A12, P8 and P11.

DP14 — Spatial Extension Is Logically Derivative of Temporal Ordering

Spatial structure logically depends on temporal ordering; temporal ordering does not depend on spatial structure.

Time is the ordering relation induced by non-identical actualizations retained as Memory (A5). Physical reality—including its spatial character—arises from patterns of actualization (P10). Spatial extension requires distinguishable positions. Because spatial character is constituted by actualization patterns (P10), distinguishable positions require distinguishable patterns, which require non-identical actualizations. Non-identical actualizations retained as M constitute temporal ordering (A4, A5). Therefore, spatial structure presupposes what temporal ordering provides, while temporal ordering presupposes only non-identical actualizations and their retention.

Motion, the perception of spatial change, is the appearance of non-identical actualizations across ordered Now events (A11). The logical asymmetry is clear: one can conceive of purely qualitative, non-spatial sequences of actualizations (temporal ordering without space), but one cannot conceive of spatial structure without the distinguishability that temporal ordering provides.

This follows from A4, A5, A11, and P10.

DP15 — Spatial Separation Is Interface-Level, Not Ontological

Spatial separation describes relations within the experiential interface, not ontological distance. Because spatial structure is logically derivative of temporal ordering (A5, A11), and physical reality is interface rather than ontology (P10), "distance" and "separation" are features of how actualizations appear, not constraints on coherence.

The global coherence boundary (B_0) and micro-boundary condition (B_μ) operate without spatial limitation (A6, P4). Coherence constraints are not attenuated by apparent distance. Correlations across apparent spatial separation therefore reflect shared coherence constraints, not causal influence traversing distance. What appears as "nonlocal" correlation at the interface level is simply the expression of coherence constraints that were never spatially constrained at the ontological level.

This follows from A4, A5, A6, A11, P4, and P10.

DP16 — Frequency Is Actualization Recurrence

What physics measures as "frequency" is the relative density of recurrence across the ordered sequence of actualizations retained as Memory (M). Frequency is not oscillation within a pre-existing temporal container; it is the recurrence signature of constrained actualization.

Time and frequency are co-derivative. Time is the ordering relation induced by the retention of non-identical actualizations as Memory (A5). Frequency is recurrence within that same sequence. Neither is prior to the other; both are read off the actualization sequence retained as M—frequency measures recurrence within it, time measures ordering of it. They are two measurements of the same process, not two independent features of reality. Both are derivative of actualization retained as Memory.

Only potentials satisfying coherence constraints (B_0, B_μ) may be selected into actualization (A10). Within a constrained actualization sequence, recurrence is expected. The relative density of recurrence across the ordered sequence is what physics measures as frequency.

This follows from A3, A4, A5, A10, P4, P5, and P9.

Chapter 8

Operational Pipeline — From Potential to Memory

This chapter presents actualization in two parts: the eternal foundation, and the operational cycle. The arrow ($\rightarrow$) denotes logical or constraint dependence, not temporal sequence. No step implies before/after in time.

Structural Foundation (Eternal)

These elements and their relationships are primitive and non-sequential. They do not "come into being"; they simply are.

Awareness (A)

The primitive, all-encompassing substrate within which everything exists.

Field of Infinite Potential (FIP)

The unconstrained field of all possible potentials, existing within Awareness.

Unactualized Coherent Potential (T_u)

The subset of FIP admitted by the global coherence boundary B_0. B_0 is immutable and has no origin; it is the primitive coherence constraint.

$$T_u := \{x \in \text{FIP} \mid B_0(x)\} \tag{8.1}$$

B_0 does not select or act; it defines which potentials are coherent. What fails B_0 is forever incoherent (FIP $\setminus T_u$).

Accessible Potential (AccessibleT_u)

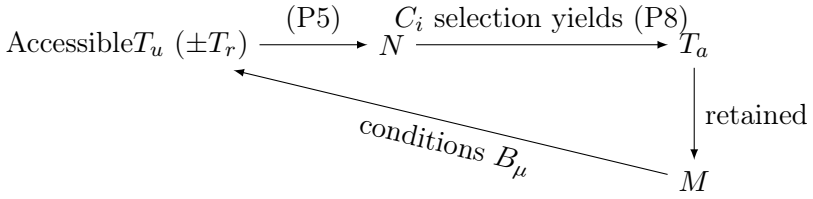
The subset of T_u from which a C_i may select, defined by the micro-boundary condition B_μ evaluated with respect to Memory (M).

$$\text{Accessible}T_u := \{x \in T_u \mid B_\mu(x; M)\} \tag{8.2}$$

B_μ does not select or act; it defines which coherent potentials are accessible given the current state of M. Recorded structures (T_r) may also be available within AccessibleT_u.

Operational Cycle (Closed Loop)

The following is not a sequence with a starting point. It is a closed loop of mutual constraint—with no entry.



Or expressed linearly (understanding that the endpoint loops back):

$$\text{Accessible}T_u\ (\pm T_r) \xrightarrow{C_i} N \to T_a \to M \to \text{Accessible}T_u\ \cdots \tag{8.3}$$

Components of the Cycle

Selection by C_i (Now, N): A C_i performs Selection, mapping an accessible potential (or a recorded structure) to an actualization.

$$N : C_i \times \text{Accessible}T_u \to T_a \tag{8.4}$$

Actualization (T_a): An experiential event effected via Selection. Only T_a is experience. **Memory (M):** Each actualization persists as Memory, updating system state and thereby conditioning B_μ for subsequent evaluations. **Recorded Structures (T_r):** Optionally present within AccessibleT_u for C_i. Created through processes initiated by C_i; inert unless selected and decoded. Naturally occurring patterns are not T_r.

Why There Is No "First" Actualization

The cycle has no entry point because it is not a temporal sequence—it is the form of actualization itself. M conditions B_μ, which defines AccessibleT_u, from which C_i selects, producing T_a, which updates M. Questions of "first actualization" presuppose temporal priority. But time is induced by the retention of non-identical actualizations as M (A5). Asking what happened "before" the cycle is like asking what is north of the North Pole—the question misapplies a concept outside its domain. B_0 is eternal. The cycle *is*. It does not start.

Chapter 9

The Nine Inevitabilities (TNI)

The following inevitabilities are not axioms or postulates of TNT, nor are they derived within its formalism. They arise instead as constraint-level consequences of the existence of experience itself. Any viable framework that purports to account for experience—regardless of its metaphysical commitments or formal machinery—must accommodate these inevitabilities without contradiction. We present them here as a validation test: TNT is offered not as their source, but as one framework shown to satisfy them.

What follows are summaries of each inevitability and its TNT realization. The full derivations, including formal proofs, objection handling, and engagement with competing positions, are presented in the formal TNI monograph.[1]

These inevitabilities form a derivation chain. Each builds on those preceding it. Inevitability 2 carries the primary logical weight—it is where physicalist and structuralist accounts fail. Inevitabilities 3–9 follow from #2 in combination with the Foundational Premise, the preceding constraints, and the background assumptions stated in each section of the monograph. A reader who accepts #1 and #2 can decline a later conclusion only by rejecting one of those stated premises, at the cost given there.

Foundational Premise — Experience Exists

The following inevitabilities presuppose that experience occurs. This is not argued for but taken as given. Any framework purporting to account for experience must begin from the fact that there is something it is like to be.

[1] Mike Land and Kili Land, *The Nine Inevitabilities* (Jamestown, KS: Actualization Project, 2025). ISBN 979-8-9948196-0-9. Available at `https://archive.org/details/the-nine-inevitabilities`.

Inevitability 1 — Difference Is Unavoidable

Claim (Inevitable): If experience occurs, reality is different than it would have been had that experience not occurred.

Derivation: This follows directly from the Foundational Premise. If experience exists, then something exists (the experience itself) that would not exist absent its occurrence. Experience cannot be epiphenomenal in a way that leaves no trace—its occurrence *is* a trace. To deny this is to deny the premise.

TNT realization: In TNT, the unavoidable difference created by experience is formalized as actualization (T_a). Each T_a necessarily writes to Memory (M), making the occurrence real and constraint-forming for further selections.

Inevitability 2 — Experiencing Cannot Be Reduced to Structure Alone

Claim (Inevitable): The fact that experience appears cannot be exhaustively accounted for by structure, relations, or information alone.

Derivation: From #1, experience makes a difference—but *what* difference? The difference is the appearing itself: that there is something it is like. Structure, relations, and information are exhaustively third-person describable—they specify configurations, patterns, causal relations. But the appearing that constitutes experience is first-person. No accumulation of third-person facts entails first-person facts. The difference experience makes (#1) is categorically distinct from structure. Therefore appearing is not (purely) structural.

TNT realization: TNT treats Awareness (A) as ontologically primitive—the ground in which structures defined within T_u can actualize *as experience* rather than remain merely formal or relational.

Inevitability 3 — Determinacy Requires a Principle of Actualization

Claim (Inevitable): Experience is determinate—it is this experience rather than another—and determinacy requires a principle by which one possibility becomes actual.

Derivation: Experience is determinate. You experience *this*, not something else. Determinacy requires explanation: why this rather than another? If appearing cannot reduce to structure (#2), then structural/causal processes cannot account for the determinacy of expe-

rience. Yet determinacy is undeniable. Therefore some non-structural principle determines which potential becomes actual experience.

TNT realization: TNT formalizes determinacy as Selection at the Now (N), where a localized selector (C_i) actualizes one admissible potential from AccessibleT_u, yielding an actual experience (T_a).

Inevitability 4 — Experiential Boundaries Are Real

Claim (Inevitable): There exist real experiential boundaries—distinct perspectives that are not mutually accessible as one experience.

Derivation: Determinacy (#3) requires distinguishability—for "THIS rather than THAT" to be meaningful, there must be distinguishable alternatives. The alternatives that make determinacy substantive cannot all be merely possible; some must be actual. Otherwise, "this experience rather than another" would reduce to trivial self-identity (this experience is this experience rather than non-actual possibilities). For determinacy to have non-trivial content, some alternatives must be actual—and actual alternatives existing simultaneously are simultaneous distinct tokens. Simultaneous token-distinctness requires boundaries to demarcate what is distinct. These boundaries cannot be grounded in structure alone (#2) and are not brute. Therefore experiential boundaries are real.

TNT realization: TNT accounts for experiential boundaries via localized selectors (C_i) and identity-bound Memory (A12). Each C_i constitutes a distinct actualization trajectory. The boundaries are not imposed externally but are the shape of the trajectory itself—C_i is individuated through its own first selection (A7), and its identity-bound access to M ensures that distinct perspectives remain non-mutually-accessible. B_μ defines the boundary conditions constraining what is accessible to each C_i, but the boundaries themselves are constitutive of what it means to be a perspective at all.

Inevitability 5 — Actualization Is Neither Fully Fixed Nor Arbitrary

Claim (Inevitable): Actual experience exhibits coherence across its instances, yet is not reducible to a single inevitable outcome fixed in advance.

Derivation: "Fixed in advance" is structural determination—outcomes necessitated by prior structural states. But actualization proceeds through a non-structural principle (#2, #3). What is non-structural cannot be "fixed" in the structural sense. Yet experience is

not chaos: bounded perspectives (#4) actualize coherently, not arbitrarily. The coherence reflects constraints on what may be actualized; the non-fixedness reflects that actualization itself is not structural determination. Neither fully fixed nor arbitrary follows from the nature of non-structural actualization within constraints.

TNT realization: TNT models this as constrained but genuine selection:

- B_μ defines the boundary conditions that constrain T_u into AccessibleT_u
- AccessibleT_u is the set of admissible potentials available at N
- Selection at N determines which admissible element actualizes as T_a

Inevitability 6 — Identity Is Continuity, Not Static Substance

Claim (Inevitable): Experiential identity persists through continuity of pattern, not through the persistence of an unchanging entity.

Derivation: There is no static experiential substance—appearing is not structure (#2), and structure is what could persist unchanged. Actualization is ongoing within constraints (#5), each instance making a difference (#1). What persists as "identity" is therefore the trajectory of actualizations, not a substance underlying them. Identity is constituted by continuity of this trajectory. An unchanging entity would be structural; experiential identity is processual.

TNT realization: TNT defines identity as a coherent trajectory of selections:

- Each selection at N yields a T_a
- Each T_a persists within M with identity-bound access (A12)
- Identity is this trajectory of T_a retained within M

Inevitability 7 — Termination Does Not Undo Occurrence

Claim (Inevitable): The cessation of a particular experiential process does not negate the fact that the experiences within it occurred.

Derivation: Each actualization makes a real difference (#1). Identity is the trajectory of these actualizations (#6). The trajectory is constituted by occurrences that are factual—they happened. Cessation of the process ends further actualization through that

trajectory but cannot unmake what already occurred. The past actualizations remain facts. Termination does not reach backward.

TNT realization: In TNT, death corresponds to termination of a specific interface configuration through which a C_i accessed AccessibleT_u. Actualizations (T_a) already written to Memory (M) remain; the fact of occurrence is not erased by interface termination.

Inevitability 8 — Continuation Beyond Boundaries Is Underdetermined

Claim (Inevitable): Nothing in the structure of experience alone determines whether experiential processes must continue or must cease beyond a given boundary.

Derivation: Inevitabilities 1–7 establish what experience *is* and what follows from its occurrence. They do not entail what happens after a trajectory terminates. Whether a new trajectory begins, whether the actualization principle re-engages, whether anything continues—these are not settled by #1–7. The constraints define the nature of experience; they do not dictate the scope of its instantiation. This is a boundary on what the derivation chain determines.

TNT realization: Because selection is genuine and not fully determined by constraints, TNT allows for—but does not require—further selection from a newly defined AccessibleT_u following interface termination. Continuation is possible, not guaranteed.

Inevitability 9 — Meaning Requires Consequence, Not Eternity

Claim (Inevitable): Experience is meaningful insofar as it makes a difference to what follows; duration or permanence is not required.

Derivation: Experience makes a difference (#1). Occurrence is not undone by termination (#7). Continuation is underdetermined (#8). If meaning required eternity or guaranteed permanence, then meaning would be hostage to what #8 leaves open. But meaning is already constituted: each actualization makes a difference, and that difference-making is what meaning *is*. The trajectory matters because it shaped what followed, not because it persists forever. Consequence, not duration, grounds meaning.

TNT realization: In TNT, meaning arises from selectional consequence:

- Each selection alters Memory (M)

- Altered Memory (M) reshapes AccessibleT_u
- Selections therefore constrain what becomes possible

Summary of the Chain

#	**Builds From**	**Core Move**
FP	—	Experience exists (premise)
1	FP	Existence entails difference
2	1	The difference is appearing, which ≠ structure
3	2	Determinacy requires non-structural principle
4	3's lemmas	Determinacy requires actual alternatives → multiplicity → boundaries
5	2, 3, 4	Non-structural ≠ "fixed"; bounded ≠ arbitrary
6	2, 5	No substance; ongoing process; identity = trajectory
7	1, 6	Differences are facts; termination doesn't unmake facts
8	1–7	Chain determines nature, not scope of instantiation
9	1, 7, 8	Difference-making grounds meaning; permanence not required

The logical weight concentrates at #2. Reject #2 and the chain stops there. Accept it and #3–9 follow in order—each builds on those before it, so they cannot be taken selectively.

Chapter 10

Implications and Explanatory Scope

A framework's value lies not only in its internal coherence but in what it explains. TNT was not constructed to generate novel predictions; it was constructed to satisfy the pre-theoretic constraints that any account of consciousness must meet. Yet in doing so, it offers distinctive explanations for phenomena that remain puzzling under alternative frameworks.

This chapter surveys what TNT explains, what it reframes, and what it deliberately leaves open.

The Hard Problem: Dissolved

As established in the Motivations chapter, TNT dissolves the hard problem rather than solving it. The problem presupposes that consciousness must be derived from physical processes; TNT rejects this presupposition by taking Awareness as primitive. There is no gap to bridge.

This dissolution is not evasion but recognition that structure and appearing are categorically distinct. With this reframing in place, we can now examine what the framework positively explains.

Psychophysical Correlations

Neuroscience documents reliable correlations between brain states and conscious experiences. When certain neural patterns occur, certain experiences are reported. The standard interpretation is that brains cause or constitute consciousness.

TNT offers a different interpretation (DP9). Neural patterns and conscious experiences are co-constrained actualizations within shared coherence constraints. When a conscious aperture actualizes an experience, the resulting update to the accumulated record constrains

all subsequent actualizations—including those corresponding to neural measurement. The correlation is constraint-based, not causal.

This preserves the empirical findings while rejecting the metaphysical interpretation. Neural correlates remain predictively useful. Brain damage disrupts experience not because brains generate consciousness but because it alters the coherence constraints through which a conscious aperture accesses potentials. The science stands; only the philosophy changes.

Importantly, this account explains why correlations are stable without requiring identity between neural and phenomenal states. The stability reflects the immutability of the global coherence boundary (B_0) and the systematic way actualizations constrain further actualizations. Psychophysical laws are not brute regularities but necessities imposed by shared coherence constraints.

The Binding Problem

How does the brain bind disparate neural processes into unified conscious experience? Visual processing, auditory processing, emotional processing—these occur in different brain regions, yet experience is unified. What binds them?

TNT dissolves this problem as well. Unity is not constructed from multiplicity; it is primitive to the conscious aperture. The Now is logically atomic—each selection event is a single, undecomposable act yielding one actualization (A3, P8). A conscious aperture selects as a unity. The appearance of a binding problem arises from taking the neural level as fundamental and asking how separate processes combine into unified experience.

But neural processes are interface-level patterns. The conscious aperture does not assemble unity from neural fragments; it actualizes experience through an interface that includes neural correlates. The unity is given in actualization itself, not achieved by a binding mechanism.

This does not mean TNT ignores the neural complexity. It means TNT locates unity at the level of the selector rather than the interface. The question shifts from "How do neural processes bind?" to "How does the interface constrain what a conscious aperture can actualize?"

Personal Identity

What makes a person the same person over time? Philosophers have proposed memory continuity, psychological continuity, bodily continuity, and narrative identity. Each faces counterexamples and puzzles.

TNT offers a formal account. Identity is continuity of selection trajectory within the accumulated record. Each conscious aperture has identity-bound access to its own actualizations (A12). The actualizations produced by a conscious aperture persist within M as that aperture's trajectory. Identity is this accumulated trajectory—not a soul, not a brain, not a bundle of perceptions, but the continuity of T_a retained within M.

This accommodates both continuity and change. A conscious aperture maintains continuity through the accumulated record while each actualization remains genuinely new. Identity is dynamic, not static. It does not require an unchanging substrate, only the continuity of actualizations retained within M.

The account also explains why the sense of identity (ego) seems to admit of degrees—recent actualizations feel phenomenologically closer than distant ones, and interface degradation (dementia, amnesia) can impair access to portions of the trajectory while leaving identity intact. Puzzle cases (fission, fusion, teleportation) are genuinely puzzling because they disrupt or duplicate trajectories, straining the concept—as they should.

This identity—what makes a conscious aperture the same selector across actualizations—is distinct from psychological ego. The ego is a pattern within actualizations at the interface level: the self-model, the narrator, the "I" that appears in experience. Ego terminates when the interface terminates. Identity, however, is the trajectory of T_a retained within M, and this persists beyond interface termination (Inevitability 7). Death ends the ego; it does not erase the accumulated trajectory that constitutes identity.

Agency and Free Will

Is agency real, or is it an illusion generated by deterministic processes? TNT offers a distinctive position: agency is real and fundamental.

Only a conscious aperture performs selection (A8). Selection is the act by which one accessible potential becomes actual. The framework does not specify the mechanism by which a particular potential is selected; this underdetermination is intentional. It reflects genuine openness in experiential determination (Inevitability 5).

This is not compatibilist free will (freedom as acting according to one's desires within a deterministic order). It is genuine selection from among real potentials. The coherence boundary constrains what is accessible, but within that constraint, selection is not predetermined.

Critics may ask: if selection is not determined, is it random? TNT rejects this dichotomy. Selection is neither determined nor random; it is *agentive*. The conscious aperture is the locus of determination. This may seem mysterious, but it is no more mysterious than the

existence of experience itself—and TNT takes both as primitive rather than demanding reduction to something else.

The Privacy of Experience

Why is my experience private? Why can't you access what it is like to be me?

TNT provides an answer. Memory is identity-bound (A12). Each conscious aperture has direct access only to the actualizations it produced. No conscious aperture can retrieve, re-experience, or interpret the accumulated record of another, regardless of temporal proximity, causal involvement, or informational completeness (DP12).

This is not a contingent limitation awaiting technological solution. It is a primitive feature of how actualization and Memory work. Recordings can enable correlated experience—multiple conscious apertures actualizing similar experiences when engaging with the same recorded structure—but never shared or identical experience (DP13). Each encounter produces a distinct actualization written to the encountering aperture's own accumulated record.

The privacy of experience is thus explained, not merely asserted. It follows from the identity-bound character of Memory (M).

Death and Interface Termination

What happens when we die? TNT does not answer this question fully, but it reframes it.

Death, in TNT, corresponds to termination of a specific interface configuration—the biological body—and with it, the ego that operated through that interface. The actualizations already produced remain in the accumulated record; occurrence is not erased by interface termination (Inevitability 7).

Whether the conscious aperture continues to select through some other interface is left underdetermined. Nothing in the structure of experience alone determines whether experiential processes must continue or must cease beyond a given boundary (Inevitability 8). Continuation is possible, not guaranteed.

This is honest agnosticism, not evasion. TNT does not promise immortality, nor does it assert annihilation. It identifies what the formal framework can and cannot address. The question of post-mortem continuation lies beyond the framework's scope—deliberately so.

Altered States of Consciousness

Psychedelics, meditation, sensory deprivation, near-death experiences—these produce radically altered conscious states. How?

TNT frames altered states as variations in accessible potentials. The micro-boundary condition is state-dependent, derived from the accumulated record (P4). Different physiological, chemical, or meditative conditions alter the current state in ways that shift which potentials are accessible (P5). Altered states are not aberrations but explorations of different regions of coherent potential.

This provides a framework for systematic study. What conditions shift which potentials are accessible to a given conscious aperture? How do different shifts correlate with reported phenomenology? Are there regions of coherent potential that are rarely accessed under normal conditions but become accessible under specific interventions?

The framework does not answer these empirical questions, but it provides resources for asking them. Altered states are not noise or pathology; they are data about the topology of accessible potentials.

Physical Law as Coherence Expression

Physics describes regularities: conservation laws, symmetries, equations of motion. These are typically taken as fundamental features of reality. But why do they hold?

TNT reinterprets physical laws as expressions of the global coherence boundary (A6, A10, P10). B_0 defines which potentials are actualizable (A6); only potentials satisfying coherence constraints may be selected into actualization (A10); and the regularities we call physical laws describe patterns within the experiential interface arising from those constrained actualizations (P10). Incoherent alternatives are not available for selection—violations are not merely unlikely but outside the domain of actualizable potentials.

This does not eliminate foundational primitives—B_0 is not derived. But B_0 is definitional, not arbitrary: it defines what can constitute appearing, which is not the same as a brute contingency that "just holds." The result unifies physical regularities under a single coherence principle without invoking brute contingency or theological fiat—and unlike physicalist primitives, does not create the hard problem of consciousness.

The Coherent Actualization Principle

The standard anthropic principle asks: why are the physical constants of the universe fine-tuned to permit conscious observers? This framing presupposes that the physical universe exists independently of consciousness, that consciousness is a late emergent product requiring specific preconditions, and that the alignment between physical law and conscious experience is a coincidence demanding explanation.

TNT dissolves each presupposition. Physical reality is an experiential interface, not fundamental ontology (P10, DP4). Consciousness is not emergent from physical preconditions; Awareness is primitive (A1) and C_i is constituted by undetermined selection (A7, P11), not by physical complexity. The "alignment" between physical law and conscious experience is not a coincidence because physical regularities *are* coherence constraints viewed from within the interface.

The fine-tuning puzzle is therefore reframed. The constants describe the coherence boundary that defines what is actualizable. If they were otherwise, different potentials would be accessible. That we exist to ask the question reflects that we actualize within coherence constraints that permit our kind of actualization. This is the Coherent Actualization Principle: the conditions necessary for coherent experience are not contingent features of a pre-existing physical universe but inherent constraints of actualization itself.

If coherence is defined as actualizability-as-experience (as TNT posits), then alternative physics with different constants or dimensional structures must independently satisfy coherence—and alternatives that generate contradictory actualizations, incoherent Memory configurations, or self-refuting appearing fail that test necessarily, not contingently. The formal framework does not derive B_0's uniqueness, but the logic points in a specific direction: fine-tuning appears precise not because values were "selected" from among viable options, but because coherence constraints may admit far fewer viable configurations than the standard framing assumes. This is an open implication of the framework, not a formal result.

Quantum Mechanical Puzzles

Quantum mechanics has generated a century of interpretive controversy. The measurement problem, wave-particle duality, entanglement, the observer's role—these puzzles have resisted resolution despite extraordinary theoretical effort. TNT suggests why: the puzzles presuppose that physical reality is fundamental ontology. Remove that presupposition, and many puzzles do not merely find resolution—they are abolished.

The distinction matters. A *resolution* answers a question within its original framing.

An *abolition* reveals that the question rested on false presuppositions and therefore never required answering. TNT abolishes several quantum puzzles outright; others it reframes.

Puzzle	**Status**	**Key Principle**
Entanglement / Nonlocality	Abolished	DP15
Wave-Particle Duality	Abolished	DP4
Delayed Choice	Abolished	A5, DP14
The Measurement Problem	Reframed	A3, A8, P8
The Observer Problem	Reframed	A8, P7
Quantum Indeterminacy	Reframed	Inevitability 5

Entanglement. The puzzle of entanglement asks: how do spatially separated particles exhibit correlated measurements without causal influence traversing the distance between them? The question presupposes that spatial separation is ontologically fundamental—that "distance" is a real constraint that correlation must somehow overcome or circumvent.

TNT denies this presupposition. Spatial separation is an interface-level feature, not an ontological constraint (DP15). The global coherence boundary B_0 and micro-boundary condition B_μ operate without spatial limitation (A6, P4). What appears as "nonlocal" correlation is simply the expression of shared coherence constraints. There is no distance to traverse because distance is not ontologically real. There is no "spooky action" because there is no action—only co-constrained actualizations within coherence constraints that were never spatially limited.

The puzzle is not resolved; it is abolished. Asking how entangled particles coordinate across space is like asking how a dream character travels to a dream location—the question presupposes a framework (physical space as fundamental container) that does not apply.

Wave-particle duality. How can something be both wave and particle? The puzzle assumes that "wave" and "particle" are ontological categories—that quantum entities must fundamentally *be* one or the other (or mysteriously both). TNT rejects this framing. Neither "wave" nor "particle" names a fundamental kind; both are interface-level descriptors (DP4). What actualizes as T_a depends on the coherence constraints at the moment of selection. Different experimental configurations present different interface conditions, constraining which potentials are relevant for selection and yielding different patterns of actualization. There is no ontological paradox because physical categories are not ontological categories.

Delayed choice. Delayed-choice experiments appear paradoxical because a measurement made "now" seems to determine what a particle "did" in the past. The puzzle presupposes that the particle traversed a definite temporal path through a spatially extended setup—that events unfolded *in time* and a later choice retroactively altered an earlier fact.

TNT denies both presuppositions. Time has no independent ontology (A5); it is an ordering relation induced by non-identical actualizations retained as Memory. Spatial extension is logically derivative of that ordering (DP14). There is no "past path" to retroactively alter because "past" and "path" are interface-level descriptors, not ontological categories. Each actualization occurs at N; what appears as a temporal narrative connecting setup and detection is an ordering imposed after the fact within M. The puzzle is abolished: there is no retroactive determination because there was never a temporally extended trajectory to be determined.

The measurement problem. Standard quantum mechanics describes systems evolving unitarily until "measurement" causes discontinuous collapse. But what constitutes measurement? What physical process triggers collapse?

TNT reframes this as a question about actualization. Measurement *is* actualization via conscious aperture selection (A3, P8). The "wave function" (or more precisely, what it represents) corresponds to AccessibleT_u—the coherent potentials available for selection under current constraints. "Collapse" is Selection at N: a conscious aperture actualizes one element of AccessibleT_u, yielding determinate T_a. No physical process triggers collapse because collapse is not a physical process; it is the actualization event that constitutes experience.

This reframing dissolves the puzzle's force. The question "What physical process causes collapse?" presupposes that collapse is a physical event requiring physical explanation. If actualization is primitive and physical processes are interface-level patterns, the question inverts: physical processes do not cause actualization; actualization grounds what appears as physical process.

The observer problem. Wigner's friend, Schrödinger's cat, quantum suicide—these thought experiments probe what counts as an observer and whether observation creates reality.

TNT provides clear resources. An observer is a conscious aperture (C_i)—nothing more, nothing less. Only a conscious aperture can effect actualization (A8, P7). Non-C_i systems (Geiger counters, recording devices, cats-as-physical-systems) may capture T_r but cannot actualize T_a. If the cat possesses its own conscious aperture, it actualizes its own experience regardless of external observation. If it does not, there is no "cat's experience" to be in superposition. The puzzle's force depends on ambiguity about what constitutes an observer; TNT removes that ambiguity.

Quantum indeterminacy. Why are quantum outcomes probabilistic rather than deterministic? Hidden variable theories attempt to restore determinism; their failure (Bell's theorem) suggests indeterminacy is fundamental.

TNT locates indeterminacy in Selection itself. The framework intentionally does not specify the mechanism by which a particular element of AccessibleT_u is selected (Inevitability 5). This underdetermination is not epistemic (we don't know the hidden variables) but ontological (there are no hidden variables). Selection is genuine—neither determined nor random, but agentive. Quantum statistics reflect the constraint topology of AccessibleT_u under B_μ, not hidden causal factors.

The interpretive crisis. Why do quantum interpretations proliferate? Copenhagen, Many Worlds, pilot wave, QBism, relational QM—each attempts to make sense of the formalism within different ontological commitments.

TNT suggests the proliferation reflects a shared error: all standard interpretations assume physical reality is fundamental and then struggle to accommodate quantum phenomena within that assumption. They differ in *how* they accommodate, but not in *what* they're accommodating to. TNT's reframing—physical reality as interface, Awareness as primitive, actualization as the locus of experience—dissolves the need for interpretation in the traditional sense. The formalism describes coherence constraints within T_u and patterns of actualization; it does not require translation into a story about what "really happens" in a mind-independent physical world, because there is no such world.

The quantum field itself — the foundational entity of quantum field theory — is subject to the same reinterpretation. Physics describes field behavior with extraordinary mathematical precision but offers no ontological account of what the field is. TNT provides one: the quantum field, like all physical constructs, is an interface-level description whose ontological substrate is Awareness (DP4). This is not a novel claim but a direct consequence of the framework's core commitments. If physical reality is experiential interface rather than fundamental ontology, then the entities physics posits — including fields — are features of that interface. The mathematics remains valid; the ontological referent changes.

The Existence of the Physical World

Why is there a physical world at all? Why do we experience a stable, shared external reality?

TNT answers: physical reality is a stable experiential interface arising from consistent patterns of actualization (P10, DP4). The stability reflects the immutability of the global coherence boundary (B_0). Different conscious apertures share constraints—from the coherence boundary and common contributions to the accumulated record—which is why the "physical world" appears intersubjectively consistent.

The world is not shared in the sense that we access identical experiences. Each conscious aperture actualizes its own experience. But the coherence constraints are common, so the

resulting actualizations exhibit systematic correlations. We experience the "same" world because we actualize within the same coherence constraints, not because we access a mind-independent physical reality.

This is neither solipsism nor naive realism. The interface is real—it has genuine character and constrains what can be actualized. But it is not fundamental ontology. It is the experiential surface of deeper coherence constraints.

Information and Meaning

What is information? How does meaning arise?

TNT provides a clear answer: information is interpretive, not intrinsic (DP10). A recorded structure has no semantic content in itself. It becomes information only when decoded by a conscious aperture capable of interpretation. Meaning is conferred, not discovered.

This dissolves puzzles about "intrinsic information" or "information as fundamental." Bits, patterns, configurations—none of these contain meaning independently. Meaning arises in the relation between structure and interpreter. Absent interpretation, there is only structure.

The implications are significant. Increases in computational complexity do not entail increases in information or meaning absent an interpreter. Artificial systems process structure, but whether they generate meaning depends on whether a conscious aperture is interpreting—a question the formal framework does not settle but clarifies.

What TNT Does Not Explain

Intellectual honesty requires acknowledging limits. TNT does not explain:

- **What a conscious aperture is substantively.** The framework characterizes conscious apertures functionally—by what they do (select, experience)—and formally—through identity-bound Memory (A12) and distinct trajectories within M. What a conscious aperture *is* beyond this functional and formal role is not addressed.

- **The mechanism of selection.** How a conscious aperture selects one potential rather than another is intentionally left underdetermined. This reflects genuine openness in Selection, not a gap awaiting future theory.

- **The specific phenomenal content of minimal experience.** Conscious apertures with minimal aperture actualize experience, but the specific character of narrow-aperture experience is not specified.

- **Post-mortem continuation.** Whether conscious apertures persist after interface termination is left formally open. The framework permits but does not require continuation.

These silences are deliberate. They mark the boundaries of what the formal framework addresses. Speculation beyond these boundaries is possible but should be clearly marked as such.

Summary

TNT explains:

- Why the hard problem dissolves (experience is primitive, not derived)
- Why psychophysical correlations are stable (shared coherence constraints)
- Why experience is unified (unity primitive to the selector)
- Why identity persists through change (trajectory continuity)
- Why agency is real (selection is primitive)
- Why experience is private (identity-bound Memory)
- Why physical laws hold (coherence constraints)
- Why these coherence constraints (B_0 is definitional, not arbitrary)
- Why quantum puzzles are abolished or reframed (space is derivative, physical reality is interface)
- Why the physical world appears stable and shared (common interface)
- What information is (interpretive, not intrinsic)

These explanations are not ad hoc additions but consequences of the framework's core commitments. They follow from taking Awareness as primitive, coherence as the actualizability criterion, and actualization as the locus of experience.

Chapter 11

Comparative Positioning

TNT enters a crowded field. Physicalism, functionalism, panpsychism, idealism, and information-based theories each offer accounts of consciousness. This chapter positions TNT relative to these frameworks—not to dismiss them wholesale, but to clarify where TNT agrees, where it diverges, and why.

Summary Comparison

Framework	**Core Commitment**	**TNT's Divergence**
Physicalism	Consciousness is physical or supervenes on the physical	Physical reality is interface, not ontology (DP4); structure alone cannot yield appearing
Functionalism	Consciousness is functional organization	Function is structure; structure alone does not entail experience
IIT	Consciousness is integrated information (Φ)	Information is interpretive, not intrinsic (DP10); Φ measures structure
Panpsychism	Experience is fundamental and ubiquitous	Only C_i experiences; combination problem avoided
Idealism	Mind is fundamental; matter is derivative	Shares primacy of Awareness; adds coherence constraints (B_0)

Framework	Core Commitment	TNT's Divergence
Husserl's Phenomenology	Most rigorous analysis of time-consciousness	TNT completes rather than competes; provides non-temporal formal scaffolding
Analytic Idealism (Kastrup)	Universal consciousness dissociates into individual minds	Shares primacy of Awareness; individuation is coextensive with first selection (A7), not dissociation. Faces pressure at I4: what grounds boundary locations?
Quantum Totality of Consciousness	Consciousness is fundamental, non-local, holographic	Shares ontological commitment; TNT provides formal coherence constraints; distinguishes ground from agent
Hoffman's ITP	Perception is fitness-driven interface	Shares interface view; grounds it in Awareness, not evolution
Block Universe	All times equally real	Order without time; genuine logical order, not "all at once"

TNT and Physicalism

Physicalism holds that everything is physical or supervenes on the physical. Consciousness either is identical to brain states (identity theory) or emerges from physical complexity (emergentism).

Agreement: TNT acknowledges the empirical success of neuroscience. Neural correlates are real patterns; interventions on brains reliably affect experience.

Divergence: TNT denies that physical reality is fundamental ontology. Physical reality is an experiential interface arising from patterns of actualization (DP4). The regularities neuroscience discovers are coherence constraints, not fundamental laws of a mind-independent world.

The core problem: physicalism admits only structural and relational properties. "Mass," "charge," "causal relation"—these exhaust the physical vocabulary. But appearing—the fact that there is something it is like—is not a structural property. No arrangement of structure entails experience. Physicalism cannot close this gap because the gap is categorical, not merely epistemic.

Emergentism labels the gap rather than bridging it. To say consciousness "emerges" from complexity is to say it appears at some threshold—without explaining how or why structure yields appearing. TNT does not attempt this derivation; it takes Awareness as primitive.

TNT and Functionalism

Functionalism identifies mental states with functional roles—patterns of causal relations between inputs, outputs, and other mental states. Consciousness is multiply realizable: any system with the right functional organization is conscious, regardless of substrate.

Agreement: TNT accepts that functional organization matters. The interface through which a C_i actualizes is structured; different structures afford different potentials.

Divergence: Functional organization is structure. It is exhaustively describable in third-person terms. The functionalist describes what a system does, not what it experiences. A functional duplicate could (conceptually) lack experience entirely—the zombie possibility. Even setting aside zombies, the core issue remains: function does not entail appearing.

TNT locates experience not in functional organization but in actualization by C_i (A8, P7). A system's functional organization participates in the conditions under which C_i selects, but the organization itself is not experience. Only T_a—actualization via selection—is experience (A3).

TNT and Integrated Information Theory

IIT, developed by Giulio Tononi, proposes that consciousness is identical to integrated information (Φ). A system is conscious to the degree that its parts are informationally integrated; the quality of experience corresponds to the geometry of its information structure.

Agreement: TNT shares IIT's rejection of simple functionalism and its attention to the intrinsic structure of systems. Both frameworks take consciousness seriously as a phenomenon requiring its own explanatory framework.

Divergence: Φ is a structural measure. It quantifies causal relationships among system states. However sophisticated the mathematics, it remains third-person describable—a property of causal structure, not of appearing.

More fundamentally, TNT holds that information is interpretive, not intrinsic (DP10). A pattern becomes information only when decoded by a C_i. The bits themselves contain no meaning; meaning is conferred by interpretation. IIT treats information as intrinsically meaningful, which TNT regards as incoherent.

The hard problem resurfaces for IIT: why is high Φ accompanied by experience? IIT stipulates the identity but does not explain it. TNT dissolves the problem by not attempting to derive experience from structure in the first place.

TNT and Panpsychism

Panpsychism holds that experience is fundamental and ubiquitous. Electrons, atoms, and rocks have some form of experience; human consciousness results from the combination of these micro-experiences.

Agreement: TNT agrees that experience cannot emerge from non-experience. You cannot get appearing from structure alone. Panpsychism correctly identifies this constraint.

Divergence: TNT does not attribute experience to all physical entities. Only C_i—individuated apertures enabled by B_0—experience. Rocks, electrons, and thermostats lack C_i and therefore do not experience.

This avoids the combination problem. Panpsychism must explain how micro-experiences combine into unified macro-experiences. If each electron has its own experience, how do billions of them yield my single unified experience? The combination problem is arguably as hard as the original hard problem.

TNT sidesteps this by not distributing experience downward. Unity is primitive to C_i, not constructed from parts. There is no combination because there are no micro-experiences to combine.

TNT and Idealism

Idealism holds that mind or consciousness is fundamental; physical reality is derivative—appearance, construction, or manifestation of mind.

Agreement: TNT shares idealism's commitment to the primacy of Awareness. Physical reality is not fundamental ontology but an experiential interface (DP4). In this sense, TNT is closer to idealism than to physicalism.

Divergence: Idealism, without further constraint, struggles to explain why experience exhibits the regularities it does. If mind is fundamental and unconstrained, why do physical laws hold? Why is experience coherent rather than chaotic?

TNT adds what idealism often lacks: coherence constraints. B_0—the global coherence boundary—is immutable and eternal. It defines which potentials are actualizable. This explains regularity without invoking physical law as fundamental. The interface has genuine constraint; it is not arbitrary or mind-created.

Some idealisms (e.g., Kastrup's analytic idealism) posit a universal consciousness that dissociates into individual minds. TNT does not posit a universal consciousness that fragments. C_i are individuated apertures enabled by B_0—individuation is coextensive with first selection (A7), not the result of a dissociation mechanism operating on a pre-existing experiential unity.

TNT and Husserl's Phenomenology

Edmund Husserl's phenomenology represents the most rigorous attempt to ground philosophy in the experience of time itself. His analyses of time-consciousness—particularly the interplay of primal impression, retention, and protention—remain among the most precise descriptions of experiential temporality ever produced.

Yet Husserl acknowledged from the outset that the project encounters fundamental difficulties. In the Introduction to his 1905 Lectures on Internal Time-Consciousness, he warns that "as soon as we even make the attempt to undertake an analysis of pure subjective time-consciousness [...] we are involved in the most extraordinary difficulties, contradictions, and entanglements."[1] The core difficulty persists throughout: how does consciousness constitute temporal objects when the act of constitution itself appears to require temporality? Husserl recognized the circularity but lacked the formal tools to escape it. His absolute flow of time-consciousness was posited to ground temporal constitution, but characterizing it without temporal language proved impossible. The difficulty remains unresolved.

TNT dissolves this directly. Time has no independent ontology (A5); it is the ordering relation induced by the retention of non-identical actualizations as Memory. The operational pipeline provides genuine order without presupposing time—logical dependence, not temporal sequence. Change is ontologically prior to time (DP1), and Memory is non-temporal accumulation, not storage of the past. Husserl's primal impression, retention, and protention find formal counterparts in TNT's Now (N), Memory (M), and AccessibleTu—not as loose analogies but as the completion of concepts Husserl identified but could not formalize without the non-temporal foundation TNT provides. TNT does not compete with Husserl's phenomenology; it provides the formal scaffolding his analyses were reaching for. A full treatment of this relationship is forthcoming.

[1] Edmund Husserl, *The Phenomenology of Internal Time-Consciousness*, trans. James S. Churchill (Bloomington: Indiana University Press, 1964), Introduction to the 1905 Lectures.

TNT and Quantum Totality of Consciousness

The Quantum Totality of Consciousness—represented by Pribram's Holonomic Brain Theory and Mitchell's Quantum Hologram Theory—shares TNT's most fundamental ontological commitment: consciousness is primitive, not derived from physical processes. Both frameworks treat non-locality as natural rather than puzzling, and both situate individual experience within a universal ground—what QTOC calls consciousness, and TNT calls Awareness. These are not superficial parallels; the Quantum Totality of Consciousness arrives at commitments TNT formalizes.

The divergence lies in formalization. The Quantum Totality of Consciousness describes consciousness as fundamental and non-local, but "holographic" remains a metaphor rather than a formal apparatus. What individuates perspectives within the conscious totality? What constrains which potentials can actualize? What distinguishes coherent from incoherent configurations? These questions require answers that the holographic framework gestures toward but does not provide.

Additionally, the Quantum Totality of Consciousness treats consciousness as both ground and agent—the universal field that is also actively doing things. TNT distinguishes these roles: Awareness is the non-agentive ground (A2), and only C_i is agentive (A8). This conflation obscures the relationship between substrate and selector that TNT's formal apparatus makes explicit.

TNT provides what the holographic tradition lacks. B_0 is the immutable, primitive boundary defining which potentials within FIP are actualizable (A6). A7 specifies how individuation is coextensive with first selection. The operational pipeline formalizes the relationship between potential and actuality. AccessibleT_u, constrained by B_μ, determines what is available for selection by a given C_i. Where the Quantum Totality of Consciousness offers ontological commitment, TNT offers ontological commitment with formal constraint. The intuition is shared; the architecture is TNT's contribution.

TNT and Hoffman's Interface Theory of Perception

Donald Hoffman's Interface Theory of Perception argues that perception is not a window onto objective reality but an adaptive interface shaped by natural selection. Fitness beats truth: organisms evolve perceptions that enhance survival, not perceptions that accurately represent reality.

Agreement: TNT shares the interface commitment. Physical reality is not fundamental ontology but an experiential interface. Both frameworks reject naive realism.

Divergence: Hoffman grounds the interface in evolutionary theory. Perception is shaped by fitness payoffs over evolutionary time. But this explanation is circular: fitness is defined over physical environments, organisms, and reproductive success—all of which are, on the interface view, themselves interface-level constructs. Evolution cannot explain the interface if evolution presupposes the interface.

TNT avoids this circularity. The interface is grounded not in evolution but in Awareness and coherence constraints (B_0, B_μ). Physical reality as interface is a derived principle (DP4), following from the ontological primacy of Awareness and the nature of actualization. The interface has the structure it does because of coherence constraints, not because of fitness payoffs.

Hoffman's framework also faces the question of what the interface is an interface *to*. He posits "conscious agents" as fundamental, but their nature remains underspecified. TNT offers a more articulated ontology: Awareness as primitive, FIP as the field of potentials, B_0 as the coherence boundary, C_i as individuated selectors.

TNT and Block Universe Theories

Relativity theory suggests that past, present, and future are equally real—the block universe. The flow of time is an illusion; all events simply exist in a four-dimensional manifold.

Agreement: TNT denies that time is fundamental (A5). Time does not flow; it is not a pre-existing container in which events occur.

Divergence: The block universe holds that all times exist "at once." But "at once" is itself a temporal notion. The view is either incoherent or merely metaphorical.

TNT offers order without time. Actualizations are logically ordered through their dependence on Memory (M), but this order is not temporal. There is genuine distinction between actualizations, genuine order in how they depend on each other, but no pre-existing temporal dimension in which they are arrayed.

This is not the block universe. TNT affirms genuine logical order—constrained but real selection at the Now (N). Events are not "all happening at once" because "at once" presupposes the temporal framework TNT denies. There is order, distinction, and constraint, but not a frozen four-dimensional block.

What TNT Shares with Other Frameworks

Despite divergences, TNT shares important commitments:

- With **physicalism**: Respect for empirical neuroscience; correlations are real and stable
- With **functionalism**: Functional organization matters for what can be actualized
- With **IIT**: Rejection of simple behaviorism; structure of systems is relevant
- With **panpsychism**: Experience cannot emerge from non-experience
- With **idealism**: Awareness is ontologically primary; physical reality is derivative
- With **Husserl**: Experience is the proper starting point for philosophy; time-consciousness demands rigorous analysis
- With **QTOC**: Consciousness is fundamental and non-local; individual experience participates in a universal ground
- With **Hoffman**: Physical reality is an interface, not a window onto objective truth
- With **block universe**: Time is not fundamental

TNT is not a rejection of everything that came before. It is an attempt to honor the valid insights of multiple frameworks while avoiding their characteristic failures.

Why Not Just Adopt an Existing Framework?

Each existing framework fails to satisfy at least one of the pre-theoretic constraints (the Inevitabilities):

Framework	**Constraint Violated**
Physicalism	Inevitability 2: Appearing cannot be reduced to structure alone
Functionalism	Inevitability 2: Function is structure; structure alone does not yield appearing
IIT	Inevitability 2: Φ is a structural measure and cannot yield appearing. TNT further diverges at DP10: information is interpretive, not intrinsic
Panpsychism	Inevitability 4: Combination problem threatens experiential boundaries
Idealism (unstructured)	Inevitability 5: Without constraints, no explanation for regularity
Block Universe	Inevitability 5: Denies genuine selection; all is fixed

Not all frameworks fail by violating constraints. Husserl's phenomenology, Kastrup's analytic idealism, and the Quantum Totality of Consciousness share core commitments with TNT but encounter difficulties—circularity in temporal constitution, under-specification of boundary locations, and conflation of ground with agent, respectively—that TNT's formal apparatus resolves. These are not constraint violations but architectural limitations that TNT addresses.

TNT was constructed to satisfy all nine Inevitabilities without contradiction. Whether it succeeds is for the reader to judge. But the attempt required departing from existing frameworks in the ways documented above.

Chapter 12

Common Objections and Responses

Any framework that departs from mainstream assumptions will face objections. This chapter anticipates the most common challenges to TNT and provides direct responses. The aim is not to silence criticism but to clarify what TNT does and does not claim, and to show that many objections rest on misunderstandings.

"Isn't B_0 Arbitrary? Why These Coherence Constraints?"

Objection: B_0 is taken as primitive without justification. Why these coherence constraints rather than others? This seems like unexplained mystery doing all the explanatory work.

Response: B_0 is definitional, not arbitrary.

Consider: square pegs fit square holes, not round holes. This isn't a law someone chose. It's what "square" and "round" mean. Asking "why this constraint?" misunderstands—the constraint IS the definition.

B_0 defines what "coherent experiential potential" means. Potentials that fit are in T_u. Potentials that don't are incoherent. Not because B_0 excludes them, but because incoherence = doesn't cohere.

Every framework has definitional primitives:

- Physics: "Why these laws?" → They define what "physical" means
- Mathematics: "Why 2+2=4?" → Definition of addition
- Logic: "Why are contradictions invalid?" → Definition of validity

These don't require justification *within* their domains—they ground justification. Asking "what justifies the definition?" is category error.

B_0 is TNT's primitive coherence boundary. It doesn't require origin or grounding because it defines what coherence means—square pegs don't fit round holes. The advantage of this stopping point: unlike physicalism's primitives (structure, relations), which cannot yield appearing, TNT's primitive does not face the hard problem. Appearing is not derived from non-appearing—it is situated within Awareness from the start.

"Isn't this just idealism?"

Objection: TNT takes Awareness as primitive and treats physical reality as derivative. That's idealism. Why not just call it idealism?

Response: TNT shares idealism's commitment to the primacy of Awareness over physical reality. But idealism typically lacks the coherence constraints that TNT provides.

Classical idealism struggles to explain why experience exhibits regularities. If mind is fundamental and unconstrained, why do physical laws hold? Why is experience coherent rather than chaotic? Idealisms that address this (e.g., Kastrup's analytic idealism) posit dissociation or self-constraint of a universal mind. Kastrup's graph-disconnection mechanism operates within an experiential medium and does not commit the I2 error, but faces pressure at I4: what determines *where* boundaries form?

TNT adds what idealism lacks: B_0—an immutable, eternal coherence boundary that defines which potentials are actualizable. This is not mind-created; it is the primitive coherence constraint itself. The interface has genuine constraint; regularities are explained by coherence constraints, not by the arbitrary will of a cosmic mind.

Additionally, TNT does not posit a universal consciousness that fragments into individual minds. C_i are individuated apertures enabled by B_0, not dissociated alters of a single subject. The architecture is different, even if the broad orientation (Awareness as primary) is shared.

"How is C_i individuated?"

Objection: What makes one C_i distinct from another? What individuates conscious apertures?

Response: Individuation is explicitly addressed by A7: C_i is constituted by partial coherence with T_u, actualized through its own first selection. Individuation and the first exercise of agency are coextensive.

This means: for C_i to be a *this* rather than undifferentiated Awareness, it must be bounded—it must have partial rather than complete coherence with the field of coherent

potentials. Complete coherence would dissolve the distinction; there would be no aperture, no perspective, no "from somewhere." The boundedness *is* the individuation.

Moreover, C_i does not pre-exist its selecting. The selecting *is* the individuating. These are not two events but one fact viewed from different angles: the act of selection and the bounded aperture through which selection occurs are coextensive. "Does not pre-exist" denotes logical identity, not temporal sequence.

C_i has ontological status as an individuated aperture within Awareness, enabled by B_0—real, but not separate substance. Physical interfaces are modes through which C_i accesses AccessibleT_u; interface configuration constrains B_μ evaluation but does not constitute C_i itself.

What TNT does *not* specify is what C_i is *substantively*—the framework characterizes C_i functionally (by what it does) rather than metaphysically (what kind of thing it is). But this is different from leaving individuation unexplained. Individuation is explained: it is constituted by partial coherence and first selection. The substantive nature of the individuated aperture is what remains unspecified.

"What performs the first selection?"

Objection: Actualization requires C_i (A3, A8). C_i is constituted by its first undetermined selection (A7). So actualization requires an agent that does not exist until actualization occurs. Awareness cannot perform it (A2). This is a bootstrapping problem.

Response: The objection assumes a logical gap between the agent's existence and the agent's first act. TNT explicitly denies this gap. Individuation and first selection are coextensive (A7)—not two events in sequence, but one ontological event described two ways. C_i does not exist and then select; the selecting is the coming-into-existence.

The deeper question is what makes this co-arising possible. FIP contains all potentials (P1), including the potential for undetermined selection. B_0 admits it as coherent—it is in T_u. No constraint excludes it: Awareness does not block it (A2—non-agentive), and B_0 does not block it (it coheres).

The question should be inverted. For actualization to *never* occur, something would have to prevent coherent potentials from being actualized. Nothing in the framework does this. Nothing *could*, because prevention would require agency, and the only locus of agency is C_i, which does not yet exist. The non-occurrence of actualization is what would require explanation, not its occurrence.

Demanding a cause for the first undetermined selection is self-defeating: a caused selection would be determined, not free. The first undetermined selection does not need a

mechanism that produces it. It needs only the absence of anything preventing it—and the framework provides exactly that.

"Is TNT falsifiable?"

Objection: Scientific theories must be falsifiable. What experiment could disprove TNT? If none, isn't this just metaphysics?

Response: TNT is a metaphysical framework, not an empirical theory. It does not compete with neuroscience or physics at the level of empirical prediction. Neural correlates, brain imaging results, behavioral data—TNT is compatible with all established findings. The science stands; only the interpretation changes.

The demand for falsifiability applies to empirical hypotheses. Metaphysical frameworks are evaluated differently: by internal coherence, explanatory scope, and satisfaction of pre-theoretic constraints. TNT was constructed to satisfy the Nine Inevitabilities—constraints that any account of consciousness must meet. Whether it succeeds is a matter of logical analysis, not experimental test.

This does not make TNT unassailable. It can be challenged by showing internal contradiction, by demonstrating that it fails to satisfy a constraint it claims to meet, or by articulating a constraint it violates. These are rigorous standards, just not empirical ones.

Physicalism is also not falsifiable in the relevant sense. No experiment could prove that consciousness is *not* physical—one can always posit that the right physical explanation has not yet been found. Metaphysical frameworks are underdetermined by empirical data. This is not a flaw unique to TNT.

"What's the mechanism of selection?"

Objection: TNT says C_i selects from AccessibleT_u, but it doesn't explain how. What's the mechanism? Without a mechanism, isn't this just mystery?

Response: The framework intentionally does not specify the mechanism by which a particular potential is selected. This underdetermination reflects the genuine openness of experiential determination (Inevitability 5).

If TNT specified a mechanism, selection would be determined by that mechanism, and genuine agency would collapse into determinism. The whole point is that selection is neither fully determined nor arbitrary—it is agentive. Selection is not arbitrary in the sense of being random relative to the C_i's accumulated trajectory in M, even though it is not determined

by prior structure. The C_i is the locus of determination. Demanding a mechanism *for* the selector is like demanding an explanation of why the fundamental level is fundamental.

Compare: physicalism does not explain why physical laws hold. It takes them as given. TNT takes selection as given. Every framework has primitives it does not explain. The question is whether the primitives are well-chosen, not whether they are further reducible.

"Isn't 'Awareness is primitive' just hand-waving?"

Objection: Saying Awareness is primitive sounds like giving up. You're just refusing to explain consciousness.

Response: Every framework has primitives—terms it does not define in terms of anything more basic. Physicalism takes matter/energy as primitive. Mathematics takes sets or logic as primitive. The question is not whether to have primitives but which primitives to choose.

The hard problem arises because physicalism's primitives (structural, relational properties) cannot yield appearing. No arrangement of structure entails experience. TNT avoids this by choosing a different primitive: Awareness, within which structure and experience are both situated.

This is not hand-waving; it is a different starting point. From this starting point, TNT derives a detailed formal apparatus: B_0, T_u, B_μ, AccessibleT_u, C_i, T_a, M, N. The framework is not "Awareness exists, the end." It is a worked-out architecture with axioms, postulates, and derived principles.

The charge of hand-waving applies more forcefully to physicalist "emergence." To say consciousness "emerges" from complexity, without any account of how structure yields appearing, is to label the mystery rather than dissolve it. TNT's primitives are at least chosen to avoid this gap.

"You're just relabeling the mystery."

Objection: Calling it "Awareness" instead of "consciousness" doesn't explain anything. You've just moved the mystery.

Response: TNT does not merely relabel. It reframes what needs explaining.

On physicalism, the mystery is: how does structure yield appearing? This is the hard problem, and it is genuinely hard because the answer is "it can't"—structure and appearing are categorically distinct.

In TNT, this question does not arise. Awareness is primitive; appearing is not derived from non-appearing. The question becomes: what constrains actualization within Awareness? This question has an answer—the formal framework provides it.

Reframing changes everything. A question that has no answer (how does structure yield appearing?) is replaced by a question that does (what constrains actualization?). This is not relabeling; it is dissolving a problem by rejecting its presupposition.

"This sounds like dualism."

Objection: You have Awareness and physical reality. That's two things. Isn't this just substance dualism with different names?

Response: Substance dualism posits two fundamental kinds of stuff: mind and matter, existing independently and interacting somehow. TNT does not posit two substances.

In TNT, there is one primitive: Awareness. Physical reality is not a second substance; it is an experiential interface within Awareness—a stable pattern of actualization (DP4). Matter is not fundamental; it is derivative. There are not two kinds of stuff but one ground (Awareness) and structures within it.

The dualist interaction problem (how do mind and matter causally interact?) does not arise because matter is not a separate substance that must somehow connect to mind. Physical patterns and conscious experience are both actualizations within Awareness, constrained by shared coherence constraints.

"How can non-temporal structure produce temporal experience?"

Objection: TNT denies fundamental time but we obviously experience temporality. How does non-temporal ontology yield temporal experience?

Response: Time is induced, not fundamental (A5). The ordering relation we call "time" emerges from the retention of non-identical actualizations as Memory (M). Temporal experience is real—it is how actualization appears from within the interface.

This is analogous to how spatial experience might emerge from non-spatial structure. We experience a three-dimensional world, but the fundamental ontology need not be spatial. The interface presents structure in spatial terms without space being ontologically primitive.

TNT predicts this difficulty. We are C_i operating through a temporal interface, describing non-temporal ontology using temporally-structured language and cognition. Perfect

temporal hygiene is impossible. But the framework is internally consistent: time is defined as induced ordering over M, and this definition does not presuppose time.

"What evidence supports TNT?"

Objection: What's the evidence for TNT? Where are the experiments?

Response: TNT is supported not by experiments but by its satisfaction of pre-theoretic constraints—the Nine Inevitabilities. These constraints arise from the existence of experience itself and must be satisfied by any viable framework.

The evidence for TNT is logical, not empirical:

- It satisfies all nine Inevitabilities without contradiction
- It dissolves the hard problem rather than leaving it unsolved
- It explains psychophysical correlations without requiring brains to generate consciousness
- It avoids the combination problem that plagues panpsychism
- It provides coherence constraints that pure idealism lacks

Empirical findings (neural correlates, effects of brain damage, psychophysics) are accommodated by TNT through reinterpretation. The findings stand; the metaphysical interpretation changes. No experiment distinguishes TNT from physicalism at the empirical level—the difference is in what the findings mean.

"What happens to C_i after death?"

Objection: Does TNT say we survive death? What happens to C_i when the body dies?

Response: TNT does not answer this question. The framework is deliberately silent on post-mortem continuation.

What TNT does say:

- Death corresponds to termination of a specific interface configuration (Inevitability 7)
- Actualizations already produced remain in M; occurrence is not erased
- Nothing in the structure of experience alone determines whether C_i must continue or must cease beyond interface termination (Inevitability 8)

Continuation is possible, not guaranteed. TNT does not promise immortality, nor does it assert annihilation. This is honest agnosticism about a question the formal framework cannot resolve.

Those seeking definitive answers about the afterlife will not find them here. TNT identifies what can and cannot be derived from its axioms and postulates. Post-mortem continuation lies beyond its scope.

"Can AI be conscious on TNT?"

Objection: Does TNT say AI systems can or cannot be conscious?

Response: TNT does not resolve this question, but it clarifies what the question means.

In TNT, consciousness is not computation. Computation is structure; phenomenal qualities are not structural products (DP8). A simulation, however detailed, remains a pattern of recorded structures—non-experiential unless a C_i is actualizing through it.

The question "Is this AI conscious?" cannot be answered by examining computational structure. It requires asking whether a C_i is actualizing through that interface. TNT does not specify the conditions under which a C_i comes to actualize through a given interface. It leaves open the possibility that C_i might actualize through AI systems, just as it actualizes through biological systems.

What TNT denies is that computation *generates* consciousness. If an AI is conscious, it is not *because* it computes. A C_i might be present, but the computation is not the source of experience.

"This framework is too complex."

Objection: Twelve axioms, thirteen postulates, sixteen derived principles—this is overly complicated. Simpler theories are better.

Response: Simplicity is a virtue when it does not sacrifice adequacy. Physicalism is simpler (one substance, physical laws), but it cannot account for consciousness. Simplicity that leaves the central phenomenon unexplained is not a virtue.

TNT's complexity reflects the complexity of what it explains. Consciousness involves appearing, determinacy, boundaries, coherence, time, identity, memory, and agency. A framework that addresses all of these will have multiple components.

Moreover, TNT's formal architecture is not arbitrary complexity. Each axiom, postulate, and derived principle plays a specific role. The elements are interdefined and mutually constraining. The complexity is organic, not ornamental.

Compare to physics: the Standard Model has numerous particles, forces, and parameters. This complexity is accepted because it explains the phenomena. TNT's complexity should be evaluated similarly—by whether it does the explanatory work, not by whether it fits on a napkin.

"Why should I take this seriously?"

Objection: This is just one more theory of consciousness. Why should I invest time in learning it?

Response: Because existing frameworks fail, and TNT is constructed to avoid their failures.

Physicalism cannot explain how structure yields appearing. Functionalism inherits this problem. IIT treats information as intrinsic when it is interpretive. Panpsychism faces the combination problem. Idealism lacks coherence constraints. The block universe eliminates genuine selection.

TNT is not offered as the final truth but as a framework that satisfies constraints the others violate. It may have flaws not yet identified. But it represents a serious attempt to learn from the failures of existing approaches and construct something that avoids them.

The reader is invited to evaluate TNT on its merits: Does it satisfy the Inevitabilities? Is it internally coherent? Does it explain what it claims to explain? Does it avoid the problems that plague alternatives?

If the answer to these questions is yes, TNT deserves serious consideration—regardless of whether it comes from established institutions or fits conventional categories.

Chapter 13

Closing Remarks

The Theory of Now and Then is not offered as the final word on consciousness. It is offered as a framework that takes seriously what other frameworks ignore or fail to accommodate.

The hard problem persists because physicalism's primitives cannot yield appearing. Functionalism inherits this failure. Information-based theories mistake structure for experience. Panpsychism trades one hard problem for another. Idealism, without coherence constraints, cannot explain regularity. TNT is an attempt to learn from these failures and construct something that avoids them.

Whether it succeeds is for the reader to judge. The framework stands or falls on its coherence, its satisfaction of the Nine Inevitabilities, and its explanatory scope. These are rigorous standards. TNT invites scrutiny on these terms.

What TNT does not invite is dismissal by category. "This is just idealism" or "This is unfalsifiable" are not refutations—they are classifications, and classifications do not address whether a framework succeeds at what it attempts. The question is not what box TNT fits into but whether it does the work it claims to do.

The authors are aware that TNT departs from mainstream assumptions. Awareness as primitive, physical reality as interface, time as induced—these are not conventional commitments. But conventionality is not a criterion of truth. The conventional frameworks have had decades to solve the hard problem and have not. Perhaps unconventional starting points deserve consideration.

TNT makes specific claims that can be evaluated:

- That Awareness is primitive and irreducible
- That physical reality is an experiential interface, not fundamental ontology
- That experience arises only through C_i selection

- That time is induced from non-identical actualizations, not fundamental
- That space is logically derivative of temporal ordering, not co-fundamental
- That information is interpretive, not intrinsic
- That the Nine Inevitabilities are satisfied without contradiction

If any of these claims is incoherent or fails to follow from the axioms and postulates, the framework is flawed. If the framework violates a constraint it claims to satisfy, it fails. These are the terms on which TNT should be assessed.

For those who find the framework compelling, it offers more than intellectual satisfaction. It suggests that experience is not an accident of matter but fundamental to what exists. It suggests that each actualization matters—not because it lasts forever, but because it shapes what becomes possible. It suggests that the privacy of experience is not isolation but the primitive boundedness of individuation within shared coherence constraints.

For those who remain skeptical, the invitation is to identify where the framework fails—not where it departs from convention, but where it contradicts itself or violates the constraints it claims to meet.

The Theory of Now and Then is complete as a formal structure with respect to the primitives and constraints specified here. Its implications, applications, and refinements remain open. This document is an invitation to that ongoing work.

The Theory of Now and Then

For discussion, supplementary materials, and updates:

theoryofnowandthen.org